BUTANE-PROPANE News

HEADQUARTERS FOR LP-GAS INFORMATION SINCE 1931

AN EXCLUSIVE DESIGN . . .

Cylinder Valve with relief and P.O.L. shown—10 other combinations—One For Every Need!

628.9

THE NEW RONEY CYLINDER VALVE

gives you

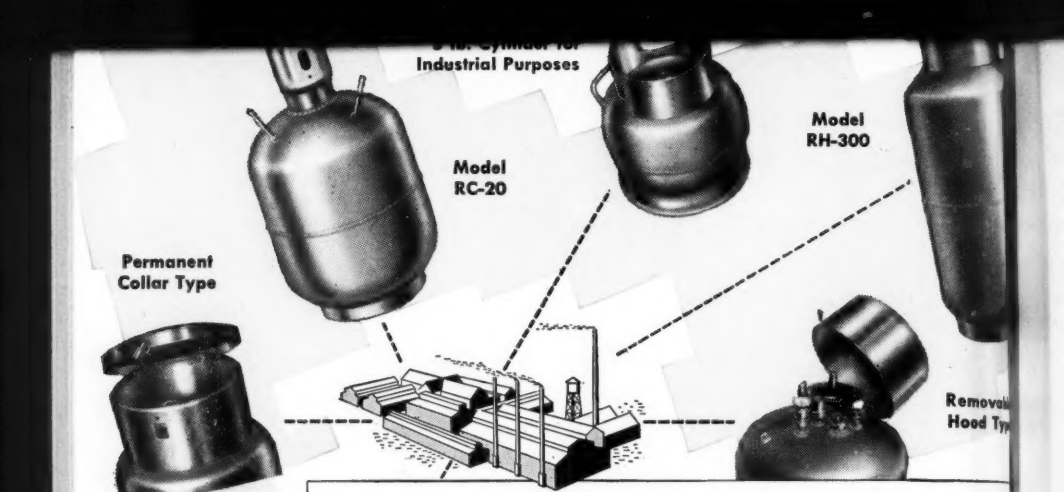
- **Simplicity in Construction**
- **Flexibility in Application**
- **Ease in Installation**

For Complete Line of Butane-Propane Equipment
LOOK TO RONEY

L. C. RONEY INC.

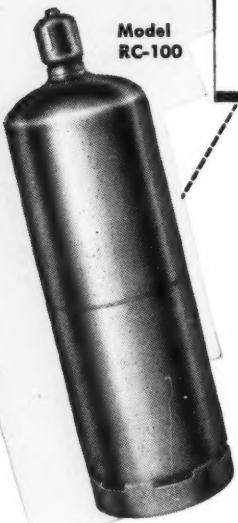
511 S. REDONDO BLVD.
INGLEWOOD, CALIF.

SEPTEMBER, 1946



HEADQUARTERS

for L-P Gas Cylinders of every type



Pressed Steel Tank Company has long made a complete line of L-P Gas Cylinders. They have been furnished with various types and combinations of openings, and with removable type of valve protection cap, permanently installed collar and removable hood—from small 5-lb. propane industrial type cylinders up to and including 420 lb. propane (500 lb. butane) capacities.

These cylinders, especially designed for the storage and transportation of propane and butane, have been preferred by L-P Gas producers since the beginning of the industry. This preference is due to the superiority of Hackney design and construction . . . minimum seam area, X-ray controlled welding, advanced heat-treating, special cold drawing process as well as Pressed Steel Tank Company's 40-year-old experience in the manufacture of containers for gases.

Hackney
MILWAUKEE

Pressed Steel Tank Company

Manufacturers of Hackney Products

Main Office and Plant: **1487 South 66th St., Milwaukee 14**

1399 Vanderbilt Concourse Bldg., New York 17 **208 S. La Salle St., Room 2069, Chicago 4**

552 Roosevelt Building, Los Angeles 14 **227 Hanna Bldg., Cleveland 15**

CONTAINERS FOR GASES, LIQUIDS AND SOLIDS

Anchorgas

BUTANE-PROPANE

AVAILABLE NOW

- BY ANCHOR TANK CARS
- FROM ANCHOR PLANTS
- FROM ANCHOR EXPORT TERMINALS

For your year 'round Butane-Propane requirements, Anchorgas is a dependable, high quality fuel. Butane and Propane are manufactured in our own plants and marketed for your ultimate satisfaction. And Anchor engineering service is available to expedite your domestic or commercial installations.

Write us about our special contract plan.

A GOOD NAME TO REMEMBER

ANCHOR
PETROLEUM COMPANY
TULSA, OKLAHOMA

BUTANE-PROPANE *News*

Reg. U.S. Pat. Off.

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CALOR liqui GAS COMPANY

Wholesalers of

GENERAL PETROLEUM CORPORATION

Liquefied Petroleum Gas Products

Territories available
for adequately-financed
distributors and dealers

Write or Call at

1916 Broadway
Oakland 12, California
Phone: GLencourt 6286
6246

MODERN *precision* EQUIPMENT

Makes So

UNI

West Coast Distributor
Paramount Mfg. Co.
San Francisco, Calif.

Scaife cylinders..

UNIFORMLY DEPENDABLE For Every LP-Gas Need

Scaife's modern precision equipment assures uniformity through every phase of production including such operations as . . .

1. Accurate forming of cylinder shell from steel sheets of uniform strength by Scaife's relatively mild "Rolled-Shell" method.
2. Forming of ellipsoidal head to assure maximum strength.
3. Fusing of component parts by brazing and welding.
4. Careful checking through four tests, by four crews, four times.

These are some of the reasons why Scaife Cylinders are your best choice for all LP-Gas needs.

SCAIFE COMPANY

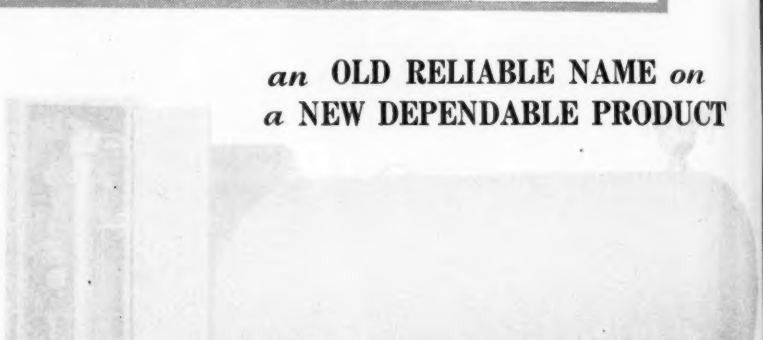
Founded 1802

OAKMONT (Allegheny County), PA.

Representatives in Principal Cities

MITCHELL

an **OLD RELIABLE NAME** *on a* **NEW DEPENDABLE PRODUCT**



The MITCHELL *VAPORIZING SYSTEM* LP

The Mitchell Vaporizer and Tank are combined as a complete unit ready for quick installation. Regardless of climate or LP mixture, the Mitchell Vaporizer provides uniform heat!

The utilization of vaporized butane-propane gas as a medium for drying cotton was one of the many improvements made by the John E. Mitchell Company in their thirty years of manufacturing fine machinery for the cotton industry.

The vaporizing system, developed for cotton drying, proved far superior to anything else available. As a result, the John E. Mitchell Company decided to manufacture a general line of vaporizing equipment for butane-propane gases.

Mitchell Vaporizing Systems are made for domestic use, automotive applications, small commercial applications and industrial uses of all kinds.

Several hundred Mitchell Vaporizing Systems have been installed and are operating with complete satisfaction.

JOHN E. MITCHELL COMPANY

Manufacturers of Fine Machinery for *Forty Years*

DALLAS, TEXAS

LETTERS

Gentlemen:

We have installed an auto steam cleaner, which requires 21" water column pressure, or ¾ lbs. We have tried setting up the domestic regulator from the regular 11" water column, but not successfully.

Can you tell us where we might obtain a regulator which can be set or is already suited to such pressures; of course we are speaking of liquefied petroleum gas.

L. L. Y.

California

Standard domestic regulators are not intended to operate at outlet pressures higher than 11" or 12" of water column.

Most of the regulator manufacturers make regulators that can be set for 3/4 PSI down stream pressure. We suggest that you contact any of our regulator advertisers whom we are sure can furnish your requirements.—Ed.

•

Gentlemen:

I am interested in a butane burner for heating a home. However, before buying, I want to know more about it.

The cost of butane in comparison with other fuel is the first problem. I was under the impression that butane was sold by the gallon, or liquid measure. In the Rangely, Colo., oil field it is sold by the pound, or weight. A Kansas City dealer has given me a chart showing the heat content of butane at 3200 Btu per cu. ft. This information brings up these questions. How many cu. ft. of butane to the pound? How many cu. ft. of butane to the gallon?

Next is a problem of safety. Purchase and installation will be by a reliable dealer.

This equipment is to be installed in an 18" coal furnace. The chimney is about 2½ brick square and about 40' high. It is my belief that about half of the heat goes out the chimney. In the use of butane, can this chimney be cut off or partially blocked?

C.E.J.

Utah

Our experience with converting old coal burning furnaces for use with gas has not always been satisfactory from an efficiency standpoint.

If you desire to use gas fuel we would recommend the purchase of a furnace designed for such use with full automatic controls and proper vent size. LP-Gas is sold in some places by the pound and others by the gallon.

Propane contains 21,692 Btu per pound. There are 4.3 pounds in a gallon. Butane contains 21,338 Btu per pound. There are 4.86 pounds in a gallon.—Ed.

•

Gentlemen:

We are selling above ground propane tanks and servicing them in this section of Kentucky. We are interested in changing our operations and retaining title to tanks. Due to the fact that we have only been operating here for a few months we need more facts before making our decision. Will you please get this letter into the hands of some of your staff that can help us?

We would like to know what is considered the best plan for this type operation. How much to charge for installations. How large a tank for number of outlets to be used. Price of fuel above price where customer owns tank. We prefer to sell here on price per gallon instead of metering. What base rate on certain number of gallons per calendar year.

What average on consumption can we expect? We are able here to get

heating in 40% of installations. We can expand 50 miles in each direction. And we are able to make one or more installations each working day. What is desired distance from bulk plant to operate?

What part of gas load profit on other people's operation is necessary to defray actual cost of the service? In an average situation involving 500 customers, what percentage of tanks would be 100, 200, 300, 500 gals. size or any other sizes? We think we can get an average load per customer of at least 300 gals. per year. Is that too much to expect? What is average in general farming and small town areas?

T.W.

Kentucky

We believe you are using good judgment in retaining title to your consumer storage as this method of operation, if you are able to obtain the financial requirements, reduces the amount of competition, and the value of your operations as a going concern is greatly enhanced if you control your outlets.

A fair installation charge is based upon the size of the customer storage. This charge should cover all of your out-of-pocket labor and handling costs with a reasonable profit in them.

The tank size should be based on a minimum of a 2 to 3 fills per year to cut down delivery costs. A rental charge of $15 to $20 per year for a 150-gallon tank is reasonable and will show a payout in 5 years. This is considered better than two prices for fuel and results in a better method of handling.

Six hundred gallons per year is a good domestic consumer consumption and includes space heating. The national average is less than 450 gallons per year.

Distance from the bulk plant for economical operation depends upon the density of the consumers. If possible, concentrate your sales efforts along one route before building up another. Operating in a 30-mile radius is being done very satisfactorily in other parts of the country.—Ed.

•

Gentlemen:

We are handling propane gas and transporting and serving same to domestic users in 100-pound capacity cylinders, using a standard valve, number 1032, by Superior Valve and Ftting Co. This valve does not have a gauge or extra filler valve. We use the two drum systems and have been picking up empty cylinders at customers' premises and leaving full ones. We are ordering a tank truck and have tried to figure out a way to fill these cylinders at the customer's place.

We have considered in our minds the possibility of using a meter on the tank truck, to fill the cylinders, and also of carrying scales with the tank truck and filling by weight, or using a tube gauge in tank valve. We are unable to satisfactorily answer this question for ourselves, and are calling on your knowledge to help us.

We are holding up our order on a tank truck until hearing from you, as we feel sure you can straighten us out on this point and give us the proper advice.

S.R.H.

Kentucky

Usually it has been found uneconomical to service 100-pound cylinders from tank trucks, due to the number of times per year that refills are needed.

Most truck delivery operators have found that a 50-gallon tank is the smallest economical unit to service. Tanks of 150, 200, 500 and 1000 gallons are the usual size found in this type of service.

It is difficult and slow to refill cylinders with a tank pump without a vapor return connection. There are 100-pound cylinders built with extra filling connections, outage connections and vapor return connections, but they are not extensively used in the industry.—Ed.

•

Gentlemen:

A customer has presented us with a request to furnish him with butane heat for dehydration of walnuts. He has constructed a 6x3 two-stack bin with capacity from one-half to three-quarters ton, and according to his requirements the temperature must be maintained at 105° with air circu-

lation 125 cubic foot per minute.

Please furnish us any information you have in your files regarding walnut dehydration or refer us to any other source for the information. We would like to know the size of the fan and motor required and the size and style of burner to be used.

J. P. W.

California

We are not familiar with an actual walnut dehydration unit.

However, from the temperature and air requirements you state, the heat requirements will be about 650,000 Btu per hour if the atmospheric air is 60°.

A 2/HP motor should be sufficient to circulate 125 cubic feet minimum of air through the dehydrator.

We suggest that you get in touch with the Bryant Heater Co., 17825 St. Clair Ave., Cleveland, Ohio; Payne Furnace Co., 336 No. Foothill Rd., Beverly Hills, Calif., and the Reznor Manufacturing Co., Mercer, Penn., all of whom make large size industrial type heaters in this range. They might be able to furnish you a factory built unit that could be adapted to this operation.—Ed.

•

Gentlemen:

Will you please inform me as to how many cubic feet of gas one gallon of propane produces, and how the answer is obtained.

I cannot find the answer in either the Handbook or Manual.

C.C.L.

Mexico

One gallon of propane will form 36.45 cubic feet of vapor at standard conditions which are at 60°F. temperature and 750 mm pressure.

This information can be found on Page 22 of the Third Edition of our "Handbook Butane-Propane Gases" under the subject head of "Density of Vapor."—Ed.

•

Gentlemen:

Please refer to the February edition of BUTANE-PROPANE *News*, Chapter 19, "The Tailor Needs Gas." I have read this article and am interested in the operation of steam boilers for our local pressing shops. We have a manufactured butane-air gas at a 530 Btu. Could you let me know what company I could write for information?

D. E. V.

Illinois

I am pleased to give you the name of the Thermek Engineering Co., 555 Bryant St., San Francisco, Calif., as a manufacturer of small steam boilers suitable for use with liquefied petroleum gas in tailor pressing shops.—Ed.

•

Gentlemen:

We would like to have your recommendations as regards the use of aluminum tubing as supply lines for liquefied petroleum heaters from the bottles or tanks.

We are handling several lines of gas appliance equipment, and this question has arisen among our dealers. We would like to have the results of your findings on this matter.

M. V.

Missouri

The National Board of Fire Underwriters' Pamphlet 58, under Par. B7, Piping & Fittings, specifies wrought iron, steel, brass or copper pipe or approved seamless copper, brass or other approved non-ferrous tubing.

We are not familiar with any installations that have used aluminum tubing. The major objection that might be brought up would be the lower melting point and its strength at higher temperatures. For general use the tubing would have to be approved by the Underwriters Laboratory.—Ed.

•

Gentlemen:

We are in need of information and prices concerning fire-cone type, low-pressure burners to produce approximately 500,000 Btu per hour. Can you help us?

F.D.

Texas

We refer you to the Nemec Combustion Engineers, Whittier, Calif. This firm manufactures a variety of large size burners such as you desire.—Ed.

COMING...

IN 20 YEARS OF GAS

Just twenty years ago Servel announced a revolutionary advance in refrigeration . . . the permanently silent, long-lasting Servel Gas Refrigerator. You may recall the interest and enthusiasm when, for the first time, you offered customers an automatic water-cooled refrigerator that had no moving parts in its freezing system to wear or get noisy. And you know how, in the years since 1927, improvements in Servel have steadily increased consumer acceptance.

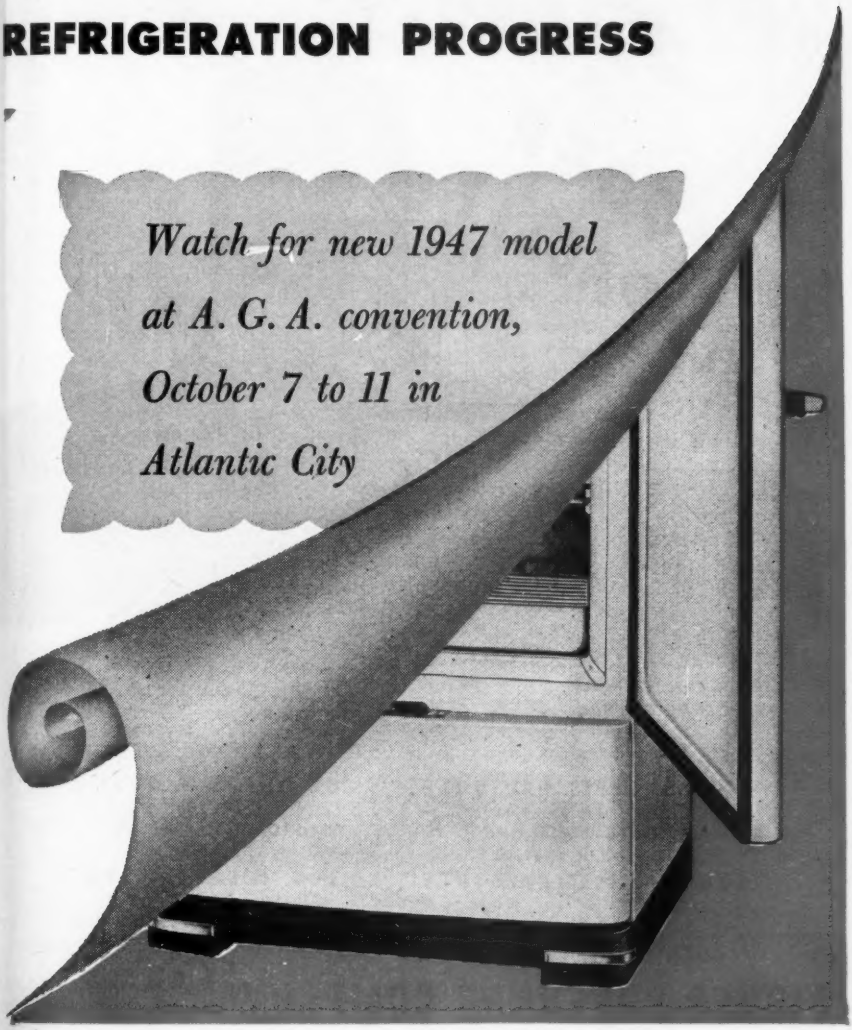
In 1933 folks were excited about the first air-cooled Servel Gas Refrigerator. Year after year, Servel made sales-attracting innovations — non-tipping shelves, dry or moist meat storage, one-piece steel cabinet, trigger release of ice trays, cold indicator and many others.

Soon the finest Servel ever built will be on your showroom floor. The culmination of two decades of progress and research in Gas Refrigeration, the great new 1947 Servel will bring your customers the finest in modern food storage. Feature for feature, it will meet the best that competition offers. And, of course, it will give them the unmatched performance of Servel's basically different freezing system. This combination of silence, long life and economical operation plus scientifically designed food care will help you sell more customers on Gas Refrigeration than ever before.

Promote the new 1947 Servel Gas Refrigerator . . . and you'll re-emphasize the modernity of L-P gas as a household fuel. Servel, Inc., Evansville 20, Ind.

THE GREATEST SERVEL REFRIGERATION PROGRESS

Watch for new 1947 model at A. G. A. convention, October 7 to 11 in Atlantic City



TYPE 722 Fisher L.P.G. REGULATOR

BIGGER CAPACITY

CAPACITY

With Propane Orifice...

10 LBS. INLET PRESSURE
300 Cu. Ft. Per Hour
750,000 B. T. U. Per Hour
35 lbs. Per Hour

50 LBS. INLET PRESSURE
900 Cu. Ft. Per Hour
2,250,000 B. T. U. Per Hour
105 lbs. Per Hour

With Butane Orifice...

5 LBS. INLET PRESSURE
325 Cu. Ft. Per Hour
1,050,000 B. T. U. Per Hour
50 lbs. Per Hour

20 LBS. INLET PRESSURE
1100 Cu. Ft. Per Hour
3,600,000 B. T. U. Per Hour
170 lbs. Per Hour

FISHER GOVERNOR COMPANY
737 FISHER BUILDING
MARSHALLTOWN, IOWA

COMMENT

ECONOMISTS now say you can't count too strongly upon getting your share of savings accumulated during the late war.

Billions of dollars worth of bonds and cash were soaked away—but by whom? The masses? No!

The Federal Reserve Board says the country's liquid assets are badly distributed, with seven-eighths resting in the strong boxes of the top 30% of our spending units. Each holds more than $1100. Less than one-eighth of the assets lies in the hands of the next 30%, each with $200 to $1100.

And what of the last 40%—the rank and file, the small home owner, the renter, the returning serviceman, the young farmer? Nothing! Nothing but what each is capable of earning from this out. Actually, this division has less than 1% of the total held.

And even those with money don't plan much on spending it this year for anything.

It looks like Old Man Competition would be bobbing up soon, long-time installment sales again necessary. Right now, however, there's a law that says you can't write more than a one-year contract, with a down payment of 33⅓%.

So, you might as well plan to get out and sell, as of old. The "pent-up demand" may have to be released through coercion.

There's another scrap iron drive on!

Twenty-five to 30 open hearth furnaces were idle Aug. 1 for lack of scrap, against 12 idle for same reason July 1. If the flow of scrap remains at its present poor rate, mill inventories will vanish in four to six weeks.

More than 1200 obsolete Navy and merchant ships will be scrapped under a plan of the Civilian Production Administration and other government agencies to provide iron and steel scrap for industry.

Some of this metal will go into plumbing fixtures, cast iron soil pipe, radiators and other home building materials and equipment.

It's been a long time coming, but at last the poetic note has been injected into the mundane business of selling gas appliances.

A new space heater will be marketed—and guess its name? *The South Wind*, if you please!

"Blow gently, oh, South Wind, blow fair—
To cool my brow in summertime
And warm my winter's lair."

Formation of a new corporation to design, manufacture and distribute completely equipped factory fabricated houses at erected prices to the owner ranging from $4997 to $5891 was announced in New York recently.

Other companies are promoting somewhat similar plans.

It may result in a tremendous number of new homeowners in rural areas —everyone a logical prospect for B-P Gas. Dealers should keep their weather eyes open for knocked down houses coming over the horizon.

More than four million home oil burners now are in use in the United States, all of them placed in service after 1920.

By Ed.

BUILDING—

More and More Business f

WHY DIDN'T SOMEONE TELL ME COOKING COULD BE SO EASY?
Even though you live beyond the city gas mains, the fast, modern CALORIC L.P.* Gas Range will make your cooking so easy it will seem almost automatic.
The new CALORIC L.P. Gas Range has all the features you've always wanted
nomical to use, its special L.P. Gas burners save up to 39% of your fuel. Ask one of our 4000 CALORIC dealers to show you why you'll want a CALORIC in your kitchen. Caloric Stove Corporation, Widener Building, Philadelphia

Millions are reading about CALORIC GAS RANGES in these leading magazines

SUCCESSFUL FARMING — PROGRESSIVE FARMER — PATHFINDER

PACIFIC RURAL PRESS & CALIFORNIA FARMER

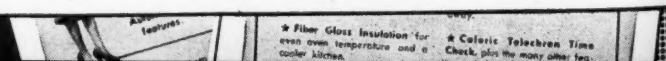
NEW ENGLAND HOMESTEAD — FARM & RANCH — RURAL NEW YORKER

PACIFIC NORTHWEST FARM TRIO

PENNSYLVANIA FARMER

WOMAN'S HOME COMPANION — GOOD HOUSEKEEPING

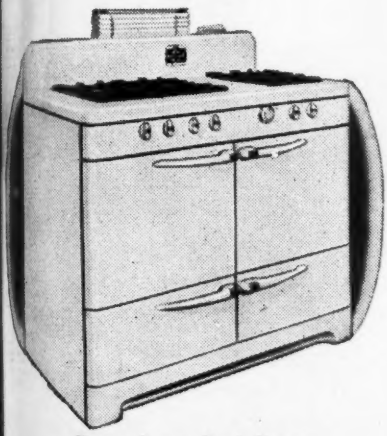
McCALL'S — BETTER HOMES & GARDENS — AMERICAN HOME


★ Fiber Glass Insulation for even oven temperature and a cooler kitchen.
★ Caloric Telechron Time Check, plus the many other fea

Caloric L.P. Gas Dealers

See the Caloric Exhibit
Atlantic City, Oct. 7-11
Spaces 527-528

Month after month CALORIC'S advertising in farm publications and national magazines is telling more than 17,000,000 readers, many of them in your area, to see all the new ranges—and to be sure to see the fast, modern CALORIC L.P. gas range. Prominent women featured in each ad are reminding housewives everywhere that the new CALORIC is the L. P. gas range with all the features women want.



Flavor-Saver Dual Burners specially engineered for L.P. Gas — guaranteed for life.

If you sell fine ranges, you will want to know about the plans we have in operation right now to build greater volume and more profit for CALORIC L. P. gas dealers in the years to come.

Today we are making a sincere effort to distribute our production equitably. Tomorrow, we believe our greatly increased plant capacity—many smart, modern features—and complete long range merchandising program, will make CALORIC *the* line of ranges you will want to sell. Write now for the CALORIC story. *Caloric Stove Corporation, Widener Bldg., Philadelphia 7, Pa.*

Caloric

REG. U. S. PAT. OFF.

GAS RANGES

SERVING HOMEMAKERS SINCE 1890

MORE AND BETTER MEALS
at Lower Cost

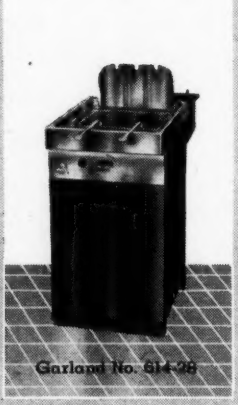
Specialized equipment is the answer! Specialized equipment designed for the job does the job right; does it faster and better; saves time and money while stepping up the output of a customer's kitchen. In the Garland line, you have every kind of needed equipment. *Ranges* of many types and sizes, *Broilers, Deep Fat Fryers, Roasting Ovens, Broiler and Griddle* and special *Attachments* which assure flexibility to meet customers' needs exactly. Write for information.

LEADER IN COMMERCIAL GAS COOKING EQUIPMENT

Ranges

Garland No. 48-28CX

Deep Fat Fryers



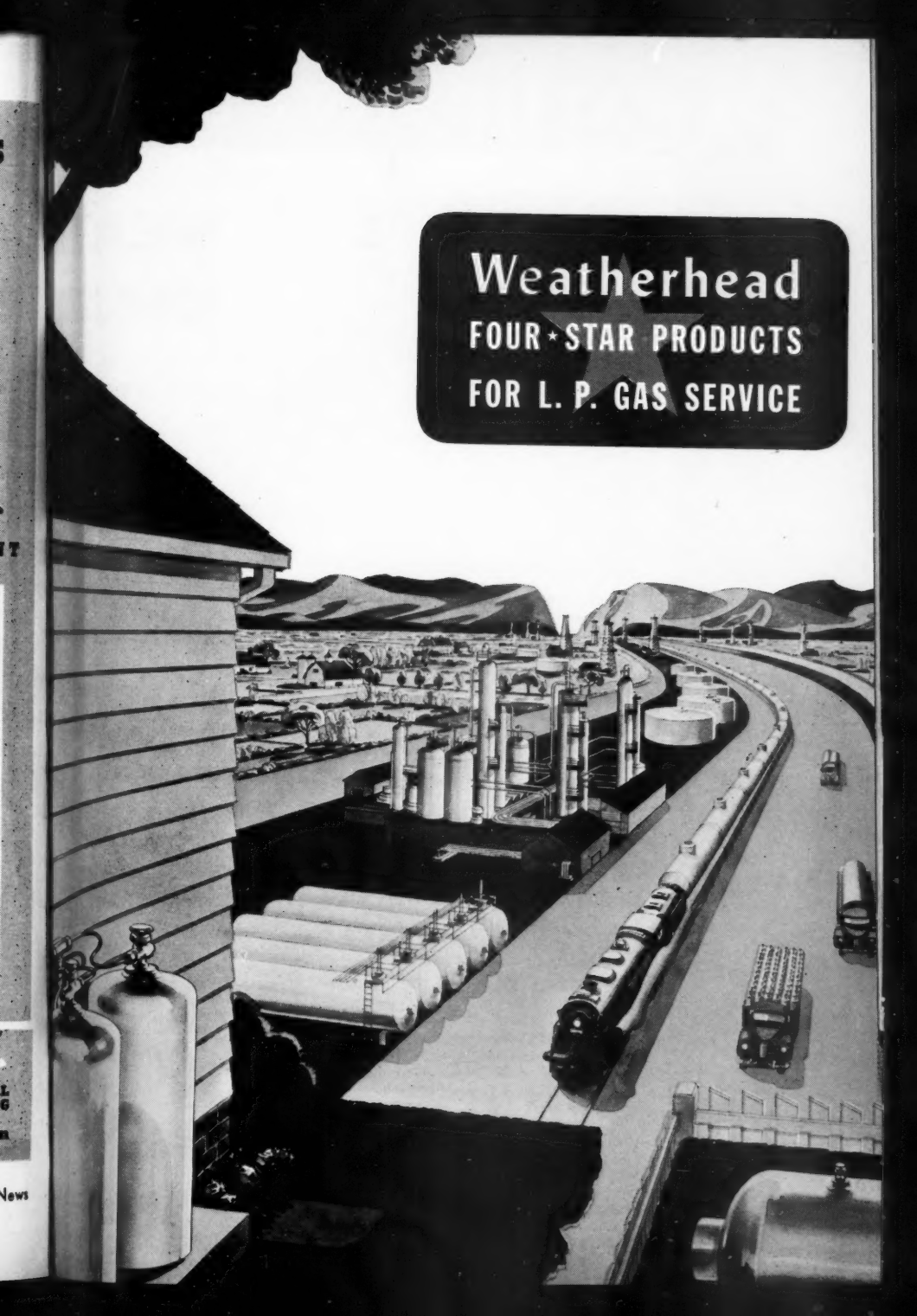
Garland No. 614-28

Broilers

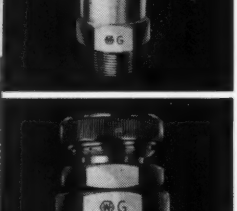
Garland No. 632

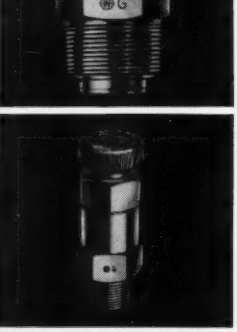
GARLAND *THE TREND IS TO GAS* FOR ALL COMMERCIAL COOKING

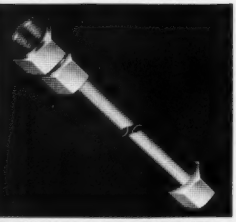
A Product of Detroit-Michigan Stove Co., Detroit 31, Michigan

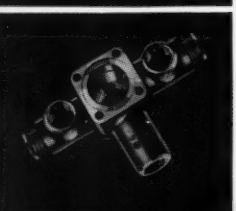

Weatherhead
FOUR★STAR PRODUCTS
FOR L. P. GAS SERVICE

Weatherhead L









FOR TANK SERVICE

SERVICE LINE VALVE NO. 101

This shut-off valve is especially designed for use on A.S.M.E. and A.P.I.-A.S.M.E. containers. It is also an excellent valve on I.C.C. containers which are provided with a separate safety relief. It can be supplied without the handwheel for wrench operation.

SAFETY RELIEF VALVE NO. 200

For the required relief on any container, see National Board of Fire Underwriters' Pamphlet No. 58 and local and state requirements. The start to discharge pressure is stamped on each relief valve.

QUICK FILLER VALVE NO. 401

Provides quick connection between tank and filler hose. Has a double back pressure check valve. Each check is equipped with its individual spring for positive closing, making it easy to remove the top half of the body and examine the resilient seat. The valve body is made into two parts so that this can be done without emptying the tank. This valve can be used equally well for top-fitted, end-fitted, or bottom-fitted tanks.

VAPOR EQUALIZING VALVE NO. 501

Combines a back pressure check and a spring type excess flow. Permits removal or examination of resilient seat without emptying tank. The hose coupling holds back pressure valve open to permit flow in either direction. The excess flow offers protection in case of break in vapor line while hose is connected.

EXPANSION COILS NO. 700

This expansion coil provides a flexible connection and should be used between the regulator and the house line where the house line is rigid pipe.

MULTIPLE HEAD NO. 900

Designed for use on a two stand-pipe system either above or below ground. One pipe is used to connect this head, the other for the fill valve. This fill pipe can be extended to the bottom of the tank, and by means of the unloading adapter No. 302, the contents of the tank can be removed when necessary. When this fill pipe is extended and a float type liquid level gauge is used, the liquid level gauge must be installed so that the float arm does not hit the fill pipe. With this two-riser pipe system, liquid cannot enter the service line during the filling operation.

WEATR

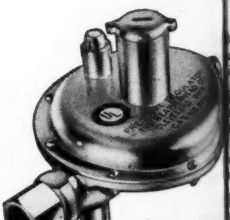
FOUR ST

QUALITY PRODUCT

After we have perfected a desig
we concern ourselves most wit
maintaining the quality of th
materials and the quality of ou
workmanship. That's why
large percentage of Weatherhea
workers devote their entire tim
to inspection.

PROMPT SERVIC

We're just plain selfish about thi
matter of service. We learne
long ago that the only way fo
us to help you, is to get our prod
ucts off our shelves and into you
hands as quickly as possibl
You'll find us "Johnny on the Spot



Gas Equipment

ATHERHEAD ST PRODUCTS

EFFICIENT DESIGN

Our product improvement program is continuous. New materials or needs set us to work immediately, checking our old products and designing new ones. Quality begins in design and we insist on having the best designs available.

SCIENTIFIC TESTING

It's our policy to *prove* before we ask for *approval.* New products are tested on paper to make sure they are theoretically sound. Then we produce sample models which we subject to pilot testing and proving and actual operating conditions before they are placed on production lines and offered for sale.

810 Regulators for ANK AND BOTTLE SERVICE

signed to handle loads up to 250 bic feet per hour or more. 2 inlet pples and settings as follows:

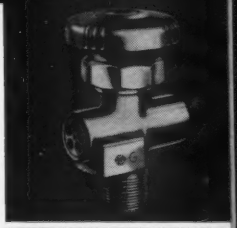
pe 1 or "Propane" setting with 1/8" et orifice set at an 11 inch delivery ssure and 100 p.s.i. inlet pressure at low of 30 cubic feet of propane per ur. This setting recommended for gle stage propane service.

pe 2 or "Butane" with a 3/4" inlet rifice set at an 11 inch delivery pres- re and 10 p.s.i. inlet pressure at a w of 25 cubic feet of butane per ur. Recommended for either butane rvice or for second stage propane; . should be used in conjunction with automatic manifold.

FOR BOTTLE SERVICE

CYLINDER VALVES NO. 100

Designed especially for L.P.G. use, combines in one unit a safety relief and shut-off valve. The large seat opening provides faster fillings. These valves are equipped with a back seat so that the bonnet can be removed and the diaphragms changed while the valve is under pressure.

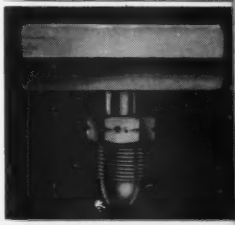


TEE MANIFOLD NO. 1100

Designed for cylinder operation. Can be used as a manifold for a two cylinder installation, or as a manifold for adding additional cylinders. As this manifold has no internal check, it will be necessary to seal the open line at any time a cylinder is disconnected. A pigtail cap must be placed over the free pigtail or a P.O.L. plug placed in the open end of the manifold.

TEE MANIFOLD NO. 1101

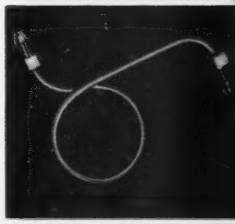
Designed for connecting two cylinders to the inlet of the regulator. This manifold is equipped with a disc check. This check permits replacing an empty cylinder without interrupting the gas service from the other cylinder.



COPPER PIGTAIL ASSEMBLIES

Weatherhead pigtail assemblies can be depended upon for uniformity in size and dimension.

All Weatherhead pigtails are made of 5/16" or 3/8" O.D. seamless copper tubing having a wall thickness of .049. All but No. 719 carry a male POL connector *on each end.*

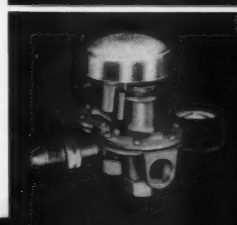


MANUAL THROWOVER MANIFOLD NO. 1103

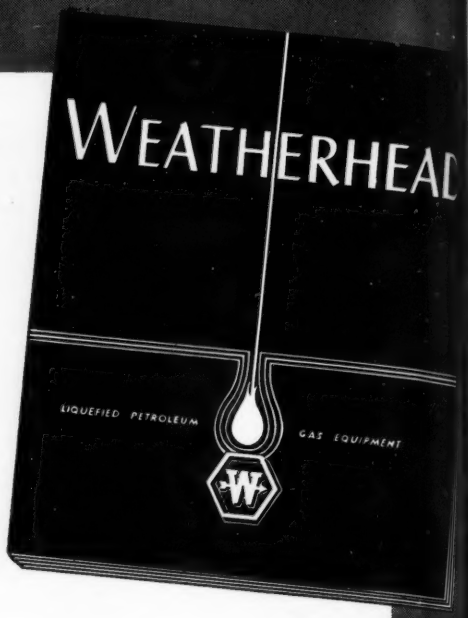
This three-way valve is an excellent manifold for connecting two cylinders or two banks of cylinders to a regulator. Turning the handle opens the line from the cylinder toward which the handle points and in the same operation closes the other side of the system.

AUTOMATIC CONTROL MANIFOLD NO. 813

This manifold automatically supplies fuel from the reserve cylinder after the cylinder (or bank of cylinders) on the service side of the system is exhausted or if the pressure drops too low because of heavy load demand.



WRITE FOR YOUR COPY OF THE *NEW* *52 Page* Weatherhead L. P. GAS Catalog



It illustrates and describes every Weatherhead product for the L. P. Gas Industry. Includes cross section illustrations of parts and detailed specifications. Tells how to install and replace parts.

The Weatherhead line of L. P. Gas fittings and controls is ready for IMMEDIATE SHIPMENT!

All Weatherhead L. P. Gas Equipment is designed for handling liquefied petroleum gases in accordance with requirements of the National Board of Fire Underwriter's, Bureau of Explosives and Interstate Commerce Commission. All these products are accepted by the Underwriter's Laboratories and are manufactured and tested according to the rules and regulations of the National Fire Protection Association.

Look ahead with WEATHERHEAD

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Beyond the Mains

By ELLIOTT TAYLOR

Chances to See

Two exhibits of gas appliances scheduled for the near future will afford liquefied gas dealers and distributors an opportunity to see everything that is new in the appliance and equipment fields, with previews of designs that are planned for production in 1947 and thereafter.

The first of these, at the Continental Hotel, Chicago, Sept. 23-25, will be under the auspices of the new National Butane-Propane Association, and will be the first display that this organization has sponsored.

The grandfather of all gas appliance and equipment exhibits, that sponsored by the Gas Appliance Manufacturers Association, and traditionally held every other year at the time of the American Gas Association convention, will be open the week of October 7th at Atlantic City. During the war years this big affair was suspended, with the result that this will be the first show in many years. The accumulated improvements in design, new invention and modern developments are expected to exceed anything that has ever been displayed.

For the first time, too, a formal invitation has been extended by GAMA to the entire LP-Gas industry to attend the exhibits and study the progress that is being made in gas appliance technique. A few years ago a butane or propane operator would have found little to interest him in a strictly gas utility appliance show, but now the picture has changed completely. There will be few, if any, pieces of domestic, commercial or industrial gas burning equipment that will not have liquefied petroleum gas adaptations available, and in many instances actually on display.

GAMA members make no secret of the fact that liquefied gas is the fast growing branch of the gas industry, and to a

man they are busy cultivating its good will and cooperation.

To refer to LP-Gas men as guests would be a misnomer now; even utility executives of the old die-hard, manufactured gas cult are rapidly swinging around to the place where they recognize propane and butane as fuels rendering a service in every way comparable to their own, and in many instances at prices that are more attractive. These, too, will be interested in the particular appliances developed for LP-Gas, for many of them have already swung over to liquefied gas, and the swing according to gas engineers is only just started.

Big distributor, little dealer, association member, or lone wolf, all have a lot to learn to make up for wasted years when production went only for destruction, and inventiveness and ingenuity in commercial and industrial ranks was expended solely on developing bigger and better instruments of war.

Either show, the one in Chicago in September, or the one in Atlantic City in October, will be a living textbook on today's equipment and an animated preview of the appliance industry's future. Either or both should amply justify the time and money required to attend and study them thoroughly.

Unite or Die

Almost in the same breath we are informed that: the National Butane-Propane Association has adopted an emblem which will be made available for members to use on their company stationery and in advertising; and that there is now available to members of the Liquefied Petroleum Gas Association an identification cut of the official association insignia and symbol for use on letterheads, house organs and other advertising matter.

An association insignia, suitable for use on advertising, letterheads or any place else where it is to catch the public eyes has to mean something to the public or it is just a waste of time and effort to even stick the cut into place on the printed page. So far neither the LPGA nor the NBPA means anything much to anyone except to the members that each organization has enrolled.

The LPGA had a convention and an exhibit of gas appliances in Colorado Springs in the spring, the NBPA is having a convention and an exhibit of gas appliances in Chicago this fall. The manufacturers of appliances foot the bills for these shows, and the only way they can be justified is by having a maximum of attendance from the industry to see what the

makers of equipment have to offer.

We are beginning to harbor a strong suspicion that two little associations, meaning nothing at all to the public and little to the appliance manufacturers, will come to mean less and less to the industry that they are striving to serve until the present senseless duplication of effort is eliminated.

Obviously the boys ought to get together now, since they will have to sooner or later. Perhaps the NBPA convention in Chicago will be the one to advocate the immediate consumation of this forward-looking move.

Cooperation

The trend in utility circles today is definitely toward programs of dealer cooperation rather than direct sales by the gas companies. Here the companies undertake the promotion and publicizing of gas as a fuel, but let the profit in the sales of the gas consuming appliances go to the regular appliance retailers.

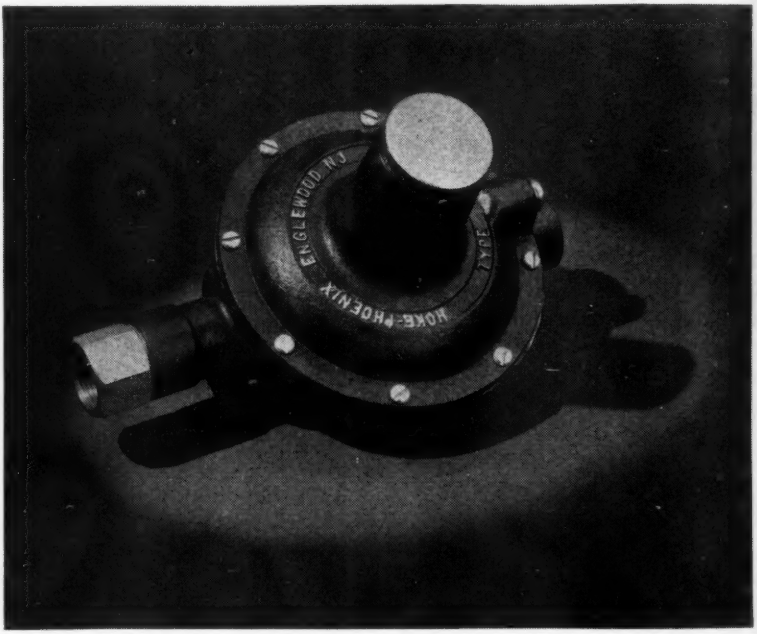
Even where gas utilities do merchandise appliances, they invariably concentrate on high priced, high quality lines, hoping thus to raise consumer tastes and standards. They are well aware that in so doing they sacrifice much of the medium and low priced business that they could very easily attract if they were so minded. They believe that the policy pays off in higher unit sales on the part of cooperating dealers, and better gas appliances in the hands of the consuming public.

We do not advocate a policy of craven fear of the big utilities, nor of undue respect for the small ones. Certainly, if a manufactured gas company is unable to bring its production costs into line, it is always going to be wide open to competition and the natural laws of business economics will operate to rob it of its existing load.

All things being equal, however, we are firmly convinced that a policy of cooperation throughout the entire gas industry, whether it be natural gas, liquefied gas or manufactured gas, will ultimately be productive of the greatest good to the greatest number of companies and consumers, alike.

And the liquefied gas load snatcher who suddenly finds himself tempted to grab off a row of customers from the local gas company, should ponder the old maxim of the prize ring —that a good, big man is better than a good little man. Then he should step on the financial scales for a quick spot check of his position before he starts anything.

PROMPT SHIPMENTS OF L-P REGULATORS



30 years of service to the compressed gas industry guarantees this regulator's smooth performance. All parts are fabricated to close tolerances to insure positive contacts and faultless operation.

Write for Specifications and Prices.

HOKE, INC.
ENGLEWOOD, N. J.

When Industry Needs Arise New England Distributor Solves Them

CULMINATING long years of growth and development in its business of distributing liquefied

P. A. ANDERSON

E. A. CLIFFORD

petroleum gas to those beyond the city gas mains, Utilities Distributors, Inc., has recently acquired one of the most modern industrial areas in Portland, Maine.

It is known as Thompson's Point and its purchase is one of first steps made by the company in a broad, postwar program to greatly expand the sale of propane, appliances and equipment to the New England market.

The Thompson Point, which is strategically located on the main railroad lines, covers approximately 52 acres of land extending as a peninsula into the Fore river basin of Portland harbor. For many years it was the home of the large roundhouse and the main repair shops of the Maine Central Railroad.

In the early years of the War the entire area was converted into a steel plate storage and prefabricating plant to serve one of the large Liberty shipbuilding yards. After a disastrous fire destroyed many of its buildings, it was developed by the government as an aerial bomb casing manufacturing facility.

At the cessation of hostilities, the Thompson's Point development was declared surplus. The purchase of this area by Utilities Distributors, Inc., was prompted by the fact that its administrative headquarters and one of its large bulk storage and filling plants had been located at Thompson's Point for approximately 10 years, plus the rapidly increasing demand for added quarters to insure adequate service to its many dealers throughout New England.

Of the several large buildings at Thompson's Point, U. D. I. has taken one of the most modern to house its administrative and office activities. The spacious, well lighted office has been sound-proofed and equipped with the most modern office equipment available. Ample

By CHARLES A. JORTBERG, JR.

parking space with an attractively landscaped entrance and reception room for dealers and customers has been installed.

Another group of the buildings has become a warehouse with proper shipping facilities for gas appliances of all types, as well as many other kinds of gas equipment and fittings. In a portion of one of the buildings the already well established training school is finding sufficient space in which to better serve its useful purpose.

In this same building a new, modernly equipped machine shop has been set up. Two of the largest manufacturing buildings have been leased to the Saco-Lowell Shops, one of the world's largest textile machinery manufacturers, where Saco-Lowell are establishing a branch plant for the production of their machines for export all over the world. A new, specially designed building will house a cafeteria to properly serve the needs of the personnel of Utilities Distributors, and the other groups, a total of several hundred employes.

Utilities Distributors, Inc., was founded in 1930 in Bangor, Maine, by Peter A. Anderson, its present president, under whose guidance it has developed into its present important position in the LP-Gas industry in New England. In addition to its bulk storage and filling

Aerial view of Thompson's Point, Portland, Maine, home of Utilities Distributors, Inc.

View of a portion of the large, new offices of Utilities Distributors, Inc., Portland, Maine.

facilities at Portland, Maine, it has similar plants located at Bangor, Maine; White River Junction, Vermont, and Brattleboro, Vermont. Present expansion plans indicate other similar plants at strategically located centers in New England.

Due to the keen vision and energetic efforts of the staff of U. D. I. in the course of its growth and development, many unique activities have been inaugurated. Research activities of the engineering staff have kept abreast of technological development in the LP-Gas industry and have introduced many improvements in equipment, methods and practices. The "Anderson Truck Heater," which uses LP-Gas as a fuel, is one adaptation of LP-Gas to suit a specific need such as was created in the truck transportation of potatoes in extremely cold temperatures.

In another instance, the "Anderson Preheater" was designed and is used for pre-heating of railroad refrigerator cars, trucks and other transport vehicles.

One of the most recent products developed and ready for distribution in the near future is the "Kelso Valve," a quick filler valve for cylinders which will enable station operators to obtain a marked increase in production. Combining ingenuity with the versatility of LP-Gas as a fuel has demonstrated its value throughout New England.

Recognizing the necessity for expert knowledge on the part of new dealers and servicemen, Utilities Distributors, Inc., established a service school which has been functioning very successfully under the capable direction of E .A. Clifford. Mr. Clifford's ability as a mathematician has been well known throughout the industry through his work in designing the patented LP-Gas slide rules and other scientific technical business aids. Aiding in the instruction staff of this School are George Kelley, field en-

gineer and James Thibodeau, shop foreman, as well as many of the older shop men.

During the war the institution of a dealer co-operative plan fostered an unusual degree of friendly cooperation between Utilities Distributors, Inc. and its many dealers. Many economies were effected for the dealers and through the operation of an advisory board elected periodically from the various territories by the dealers, themselves. This board meets once each quarter, clearing many matters of mutual interest to the advantage of all parties.

Gives Credit to Key Men

Mr. Anderson maintains that credit for the progressive development of this business to its present leading position in New England should be given to the unstinted, loyal efforts of the key men of his organization, practically all of whom have grown with the business, itself. These leaders are, the treasurer, E. Martin Anderson, who also directs plant operations; Donald M. Phillips, assistant to the president, one of the first men in this country to master the detail as a "priority" accountant; Robert I. Burns, comptroller; Coleman D. Rodgers, chief of industrial development; John I. Fuller, office manager; E. S. Colburn, purchasing agent; C. M. Perry, credit and traffic manager; George R. Kelley, field engineer; Earle A. Clifford, school supervisor; Dana A. Merrill, superintendent of buildings; Augustus S. Wright, director of representatives; E. O. Nielsen, advertising; Clarence M. Ginn, engineer.

Recognition and development of individual abilities which foster the assumption of growing responsibilities coupled with the full benefits of adequate training and understanding cooperation has knit together a smooth working organization in U. D. I. Mr. Anderson places his faith in this organization to continue as a leader in the LP-Gas industry in its postwar development in the New England States.

ICC Examiners Recommend Lower Estimated Weights

If a recommended report of three examiners to the Interstate Commerce Commission is accepted by the Commission, shippers of liquefied petroleum gas in a wide area will, in the future, pay freight charges at the rate applicable to gasoline but at an estimated weight of 4.7 pounds per gallon. The examiners recommend that claims for reparation on past shipments be denied. This information is contained in a bulletin issued by the National Butane-Propane Association in late July.

The proposed report prepared by the three Examiners who have heard a number of cases embraces 28 cases affecting companies in the Midwest.

In Docket 29433 Mobile Traffic Assn. v. G. & F. et al, Docket 294331-1 Fowler Appliance Co. v. A. G. S. et al and Docket 29433-2 Mobile Traffic Assn. v. B. of G. et al, two Examiners made the same recommendations to the Commission.

Considerable time can be expected to elapse between the filing of these recommended reports and the decision of the Commission, it is stated.

Changeover to Propane-Air Increases Customers 33⅓% in Two Months

By F. M. CHELF

President, The Canon Gas Service Co.
Canon City, Colo.

THE gas plant at Canon City, Colo., was constructed in 1903. Gas supplied was enriched water gas produced from coke and oil. At one time the company served 810 customers in Canon City, but due to high rates and inadequate service, most of these customers had discontinued the use of gas until there remained only 300 active meters.

Our present management took over the operation of the company on Aug. 25, 1945, and immediate plans were set in motion to change from water gas to propane gas-air mixture. After appropriate hearings with the city authorities and public utility commission of the state, arrangements were made for installation of propane gas-air mixture.

Rates were cut to the customer on a basis of Btu value received, from 35% on the initial steps, to 64% on final rate steps. The rate put into effect is a therm rate, as follows:

First 3 Therms, or less per month	$1.00 min.
Next 3 Therms, per month, per Therm.	.33⅓
Next 4 Therms, per month, per Therm.	.25
Next 5 Therms, per month, per Therm.	.20
Next 5 Therms, per month, per Therm.	.15
All over 20 Therms, per mo., per Therm	.10

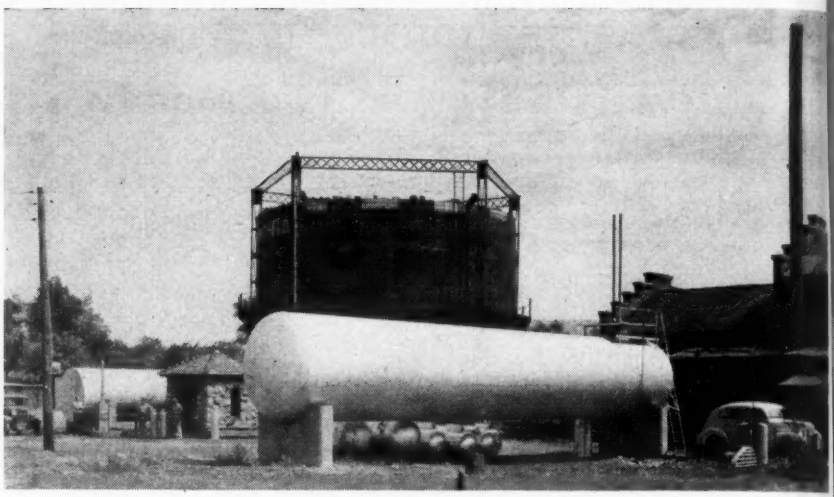
Propane gas-air was turned into the mains on Feb. 20, 1946. Careful instructions by newspaper and by mail and by messenger were sent out to gas users instructing them to use only top burners on ranges or hot plates until changeovers of orifices were completed. Customers were requested not to use ovens or water heaters until changes had been made.

We were assisted greatly in making the changeover by W. C. Hagler, of Phillips Petroleum Co. and also by Ray Fannin and his equipment installer, George J. (Slim) Reichel. Mr. Fannin is associated with Eaton Metal Products Co. in Denver.

All Customers Cooperated

All our employes, including the vice president and general manager, Max T. Chelf, worked on the changeover until it was completed. Our customers were extremely cooperative, and none of them were injured in any way during the changeover to the new gas.

By the second month on gas-air our customers were convinced the new gas was far superior to the old and much cheaper to operate. Immediately the demand for gas appliances soured to a new high. At this writing in July, 1946, we



Propane-air replaces water gas in Canon City, Colo. Here are the new storage tanks close to the old holder and plant.

have 400 active meter customers, which represents an increase of 100 customers.

The equipment on the job is one 18,000 water gallon capacity propane tank, together with tank car unloading equipment, which was procured from Phillips Petroleum Co.

Serve Cylinder Accounts, Also

We distribute a standard 982 Btu gas (810 Btu, corrected to altitude) through approximately 9 miles of underground mains and serve a number of cylinder accounts in outlying areas.

Gas making equipment is one 5000 cubic foot per hour capacity "Gasair" machine, manufactured by Eaton Metal Products Co., Denver, under an arrangement with the California-Maine Corp. The Gasair machine is giving excellent automatic service, and we are highly pleased with the new plant.

Suspend Price Control on Truck, Tank Car Shipments

Charges for the transportation of liquid commodities, except milk, in tank trucks by contract motor carriers were suspended from price control Aug. 7 by the Office of Price Administration. The action became effective Aug. 13.

Liquid commodities covered by the action are primarily various petroleum products, such as gasoline and fuel oil.

Also, the use of railroad tank cars to ship these products is no longer restricted by the Office of Defense Transportation.

Pumping Water With B-P Gas

Pumping Engines

By C. M. DENTON

Chief Engineer, Pacific Tanks Co., Los Angeles

THIS article deals primarily with the type of engine that should be used in any pumping system. The type of engine used should be very carefully considered from several standpoints, each one of which we will try to study from the dealer's position in not only selling the unit but also in the load factor that the pumping unit will develop.

C. M. DENTON

First, we will discuss the type of engine from the original cost standpoint. Engines can be purchased of the automotive type for sums ranging from $200 through $500. They are efficient on gasoline for the purpose of powering a motor vehicle; they are designed primarily for ever-changing loads and do not fit economically into the pumping plant economy of operation.

True, they have an original low investment. However, a pumping engine will run almost continuously during the pumping season, which in most regions amounts to approximately six months. Throughout this entire period the engine will be running at capacity constant load.

Therefore, we should consider only an engine that is designed primarily for industrial pumping work. These engines will cost, depending on horsepower, of course, from $750 upwards. They will be specifically designed for the utilization of butane or propane gas. If they are to be used with propane, for instance, they will have a compression ratio of approximately 9.1 to 1. They will have a piston speed at maximum of not over 1000 feet, and at optimum operating conditions, the piston speed will be between 760 and 800 feet.

The combustion chamber of this engine must be designed for the 120 octane rating of propane gas. The maximum number of revolu-

In the August issue of BUTANE-PROPANE *News* (Page 27) a typographical error occurred in Mr. Denton's article on "Drives."

It was stated that "Efficiencies on these units are as high as 98½% with only ½% friction loss."

Of course, the friction loss should have been given as 1½%.—Editor.

A Summer Load Builder

Fig. 1. This is the special type of engine used to best advantage in irrigation pumping.

tions that any of these engines should turn in developing their required horsepower should never exceed 1200 rpm, and under normal optimum operating conditions should run between 800 and 1000 rpm.

The horsepower rating of the engine should be based on the SAE rating, or the actual horsepower inherent in the design of the engine. The high speed engine with a high developed horsepower rating should never be considered.

Speeds and Engine Life

The advantages of speeds, mentioned above, are many. Paramount in them is the fact that the engine life will be extended considerably. In fact, within the writer's knowledge, an engine is operating now on its seventh pumping season, for a total of approximately 38,000 hours, that has had absolutely no work done on it with the exception of maintenance work to the ignition system and valve rocker arm adjustments.

Removal of the inspection covers on the side of this engine revealed the engine to be as clean internally as it was when it was received from the factory. No sludge, gum or other crank case formations, familiar in the gasoline engine, were found. The oil used in the engine was a good grade of standard gas engine lubricating oil. A change in this oil was made every 10,000 hours.

However, oil that was removed had the clean appearance of new oil. This engine demonstrates the extreme economy that can be obtained by using a properly sized, properly built, and correctly installed power unit for the irrigating pumping system. It may be noted, however, that this was a specially built job and normally the oil would be changed every season.

We will discuss the installation of these engines at a later date. Suffice to say at this point, the engine installation is very important in regard to maximum efficiency of operation.

Let us consider the problem of a pumping unit mentioned in the second article of this series in which we require 68 actual horsepower. We will purchase an engine that will deliver actually, 75 to 80 horsepower when turning at 1200 rpm. Several manufacturers are at present engaging in building this type of engine especially for the natural gas engine applications in the irrigation field, butane and propane applications in the oil fields, and butane and propane applica-

THE PRIMARY PURPOSE of this series of articles on irrigation pumping with engines burning butane or propane is to provide dealers with basic information so that they may acquire this type of load in competition with other engine fuels.

There is no better or faster method of developing summer load than through sales of B-P Gas for agricultural operations—tractors, trucks, stationary engines, hay and grain drying, flame weeding, cotton ginning, etc. Dealers who familiarize themselves with such applications can present constructive sales facts which will bring them increased volume.

Irrigation pumping is practiced in numerous localities throughout the country. It makes an ideal summer load.

Charles M. Denton is exceptionally well qualified to discuss this field, having made many such installations in the field. He is a mechanical engineer of wide experience.—Editor.

tions in general industrial uses and water pumps.

A brief description of one of these engines is as follows: It has a 6" x 5" bore and stroke. It has a top rpm for 69 horsepower of 771. It has a piston speed of 900 feet at the same horsepower, and also at the same horsepower has a BEMP of 60 pounds. It has overhead valves with individual valve covers over each two cylinders, a fully pressurized lubrication system, delivers 60 pounds per square inch of oil to each connecting rod bearing, and to all of the seven main bearings.

It is a six cylinder-in-line engine. It is equipped with a friction clutch, a high-low level alarm, and engine cutoff for oil level and heat, a good over-speed governor, and comes factory-equipped with a popular make carburetion equipment. The exhaust manifold is water cooled. The intake manifold is cold. It has no connection in any way with the exhaust manifold's heat.

The engine is also equipped with a water pump of sufficient capacity to circulate the cooling water constantly throughout the engine to permit not over a 15-degree variation from inlet to outlet. The ignition system is of heavy duty, high arc, magneto type, with secondary battery and coil distributor. The engine is also equipped with an electric starting system and a generator for a heavy duty voltage regulation system for charging the batteries. A centrally located control panel is also mounted on the engine, itself. No radiator or fan is required or is used.

Engine Should Come Equipped

An engine such as this is shown in Figure 1 and should be studied carefully by the dealer to determine the physical points noticeable as stated by the above description. This engine should come from the manufacturer completely equipped with everything except the cooling

FIG. 2. CLIMAX WATER PUMPING ENGINE

Model	*N4B*	*R41*	*R61*	*R81*	*V-8*	*V-12*
No. of cylinders.....	4	4	6	8	8	12
Bore & Stroke.....5¾x6½		6x7	6x7	6x7	7x7	7x7
Displacement cu.in.	675	792	1187	1583	2155	3232
RPM (900 Ft. Piston Speed)	830	771	771	771	771	771
HP @ 60 Lbs. BMEP....	42	46	69	93	126	190

Equipment: Governor; magneto; instrument panel with ignition switch, oil pressure gauge, vacuum gauge and controls; stub shaft on engine flywheel; box base; water cooled exhaust manifold; electric starter and generator, 12-volt; voltage regulator; oil bath air cleaner; lubricating oil filter; Penn. safety switch on oil pressure and water temperature; natural gas carburetor.

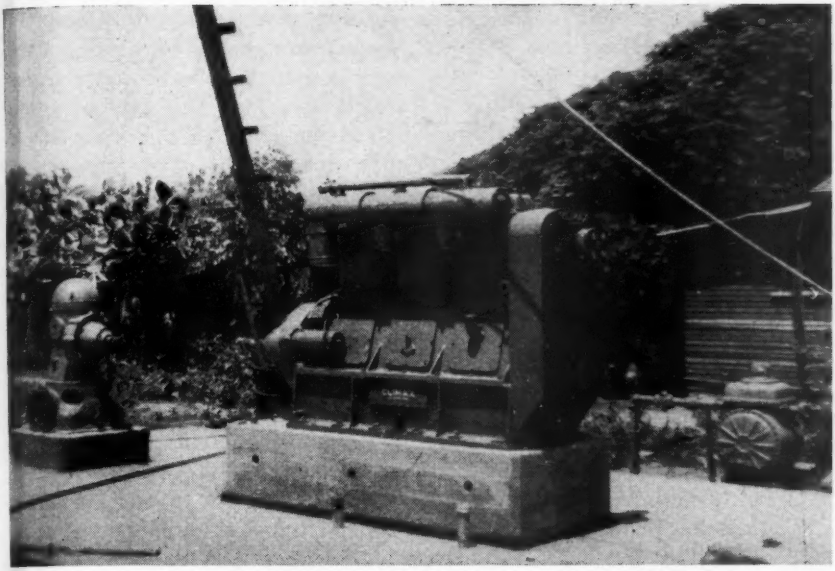


Fig. 3. Heavy duty pump engine installed on a foundation block without the outside extra equipment.

system as far as heat exchanger and piping are concerned, for the fuel on which it is to be operated, and should be warranted by the manufacturer as being built for that particular service, specifications and fuel.

A great deal of care should be exercised by the dealer in ordering these units from the manufacturer to be absolutely certain that he has given all the required information that will be needed. This information should include maximum speed, horsepower required, type of fuel to be used, type of exhaust cooling, type of starting, and a recommendation as to the carburetion and electrical equipment. Brochures and catalogs may be obtained from the several engine manufacturers showing their standard lines of engines and giving curves on each of their standard engines.

A sample of a simple specification sheet for the Climax engines ranging in horsepower from 42 to 190 is shown in Figure 2. Figure 3 illustrates a Climax motor R61 engine installed on a foundation block without the outside extra equipment.

It is to be noted in this illustration that the engine as shown has been mounted on a concrete block to which it is anchored by all of the foundation bolts required by the engine manufacturer. The concrete block is placed on a 2″ thickness of pressed cork. Stubs of pipe

for the water cooling system are shown in the foreground. These, it will be noted, have been neatly capped to preclude the possibility of dirt entering the cooling system in any case of oversight.

It is also to be noted that the exhaust manifold in this engine is water cooled. This is extremely important as it adds many thousands of hours to valves, upper rings, and general engine life. The cooling system used on this engine, which will be discussed in a later article, is completely closed. The water that is placed in the cooling system will remain in that system and be recirculated c o n t i n u o u s l y through a heat exchanger connected to the discharge water from the pump. This system is extremely beneficial to reducing alkaline accumulations in the engine and retarding corrosion in the water cooling system.

Efficiencies Are High

As to the efficiencies of these engines as described above and as shown in the accompanying figures, it is a known fact that the theoretical efficiency of an engine determined by Btu input against power output on propane gas can run as high as 44.3%. Actually, under field conditions, engines of this type will run in efficiencies very easily up to 38%. This closely approximates some of the smaller type diesels and is far above any high speed, light weight, automotive engine running under the same conditions.

As can be seen by the foregoing, it is extremely important that the butane-propane dealer determine and convince himself and the customer in selling this type of equipment on efficiency, long operating life, low maintenance costs, and trouble-free operation.

AGA Announces Candidates For 1946-1947 Slate of Officers

The general nominating committee of the American Gas Association, under chairmanship of Elmer T. Schmidt, vice president, Lone Star Gas Co., has named the following list of candidates for offices in the American Gas Association for the 1946-47 fiscal year, to be voted on at the annual meeting in Atlantic City during the week of October 7:

President—R. H. Hargrove, vice president, United Gas Pipe Line Co., Shreveport, La.; first vice president—Hudson W. Reed, president, The Philadelphia Gas Works Co., Philadelphia; second vice president—Robert W. Hendee, president, Colorado Interstate Gas Co., Colorado Springs; treasurer—Edward F. Barrett, president, Long Island Lighting Co., Mineola, N. Y.

CALENDAR

Sept. 18-21—Oklahoma Liquefied Petroleum Gas Association. Oklahoma City. Skirvin hotel.

Sept. 23-25—National Butane-Propane Association. Chicago. Continental hotel.

Week of Oct. 7—American Gas Association, Atlantic City.

Week of Oct. 7—Northeastern Section, LPGA.

Oct. 11—California Natural Gasoline Association. Annual Fall Meeting. Ambassador hotel, Los Angeles.

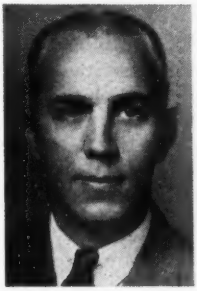
Oct. 14—Colorado Liquefied Petroleum Gas Association. Denver.

Dealers Will Find It Pays To Service LP-Gas Equipment

By KENNETH R. D. WOLFE

Vice President, Fisher Governor Co., Marshalltown, Iowa

THE maintenance and servicing* of LP-Gas equipment is a subject which has been glazed over by many operators as one which can be put off and considered later, when more time is available. This disregard on the part of many gas companies has been and will continue to be a serious black mark on the good will and confidence of millions of customers, present and potential, who depend solely on LP-Gas for cooking, heating, refrigeration and hot water.



K. R. D. WOLFE

This condition was very apparent during the war when we, as manufacturers of regulators, received many letters every week from every part of the United States from housewives pleading in desperation to have repaired or replaced equipment which was not operating satisfactorily, and stating that their retail dealer from whom they purchased the equipment would not or could not handle this service for them.

This industry has now "come of age" and must turn its attention to any detail of its business which can affect its public's good will. In becoming of age, we have passed the so-called "10% saturation point of sales," and one of the major factors in reaching that point with a mass consumer product is the public acceptance, which is created by the word-of-mouth advertising of satisfied users to potential new customers. But remember, one dissatisfied customer can discourage or retard the sales of many new, potential buyers.

Therefore, once having attained the position we now enjoy in the esteem of the public, evey possible means must be utilized to convince our users that they have the finest product and receive the finest service possible.

To give this complete service, the most important point to consider is the maintenance and servicing of utilization equipment. The heart of any LP-Gas installation is naturally the pressure regulator. It is

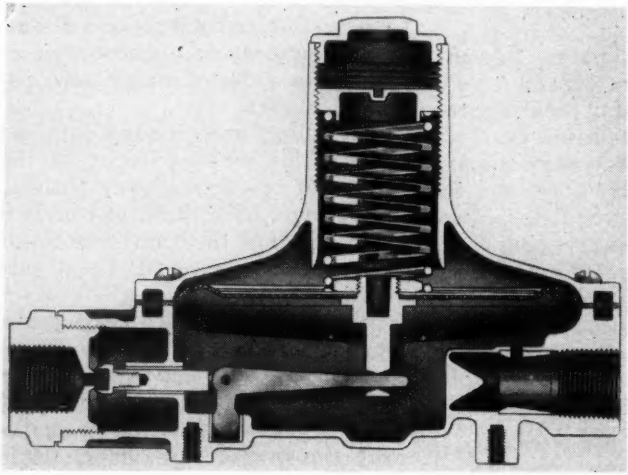
* A paper delivered before the Liquefied Petroleum Gas Association, Colorado Springs, May 27-29.

therefore absolutely paramount that every customer's regulator function without failure every hour of the day or night, every day of the week, every week of the month, and every month of the year.

To insure this unfailing service is going to require far more attention on the part of every manufacturer, bulk plant distributor, dealer and service man. It is going to require more planning to anticipate regulator troubles, rather than trying to replace or repair the regulator after trouble has occurred. Every operator has experienced the embarrassment of a customer complaint that the regulator is leaking gas or has failed, and they have no means of cooking without it. Unfortunately, many of these complaints went unsatisfied during the war, due to the lack of equipment, and some of them are still being improperly handled, due to poorly planned service on inadequate equipment. This inferior kind of service must be replaced with a completely satisfactory one. The problem facing us today is: How can this be accomplished?

Your speaker would here like to take a leaf from the book of experience gained by working with the public utility gas companies for the past 20 years. It is common practice on the part of public utilities to have certain definite service periods, at the end of which the regulators and meters are removed from the customer's service and replaced with new or reconditioned equipment.

The length of time of these periods varies considerably, depending upon the type of gas being distributed, climatic conditions, and the personal opinion of the operating company. Some companies replace the equipment every five years, but the more accepted period, and the one which would seem to



A regulator designed particularly for butane service where large demand loads must be carried even when tank pressures are lowest.

fill the needs of this industry, is about seven years.

Under this plan, all customer installations are dated and accurately recorded, and, assuming that there are no equipment failures during the normal period, the equipment is completely removed and replaced at the end of seven years. The regulators and/or meters, or other equipment, should then be returned to a central service station, where factory trained men completely rebuild the equipment.

The regulators should be disassembled and all parts inspected and cleaned. Generally, the only parts necessary to replace are the valve discs and the diaphragm. The orifice seat on the inlet of the regulator and the relief valve seat should be carefully inspected for nicks or other physical damage, and such damaged parts, when found, should be scrapped. It is almost impossible to refinish such orifice surfaces in the field, because the special tools and machines used for this operation are available only in the manufacturer's factory.

Equipment Must Be Inspected

Requirements of the industry make it mandatory that regulators and similar equipment be listed as standard by the Underwriter's Laboratories, or some similar inspection organization. To obtain this listing, the manufacturer must submit the equipment for investigation, and all parts and assemblies are carefully checked and tested to insure the highest quality of materials being used to prevent failures in service. Detailed drawings of every part are included in the examination report and annual reexaminations are made at the factory to make sure that the equipment is continually made in accordance with the original standards.

It is, therefore, highly important that only original factory-made parts be used in repairing a regulator, and that the regulator is tested and set in accordance with the Underwriters' approved procedure.

Repairing or testing the regulators otherwise may jeopardize the original Underwriters' listing.

Control over this type of repair service can be assured only in two ways—either return the regulators to the original manufacturer, or establish a central service station of your own, staffed with trained personnel, and do this work under your own supervision. Obviously, this eliminates the retail dealer from repairing regulators or doing any work of this kind.

The reasons the retail dealer should be discouraged from doing this kind of repair service are many. The principal one is that due to the large number of retail dealers, it would be impossible for them to have either adequately trained men or the proper equipment, while it is comparatively easy to staff and equip one central service point, which could serve several hundred dealers.

Admittedly, the service that is here being advocated will cost money, and someone will have to pay for it. Many operators have not figured on any operating expenses of this kind, anticipating

that the equipment has a long life expectancy, and that they will absorb any such expenses in an incidental manner in their daily costs.

This type of thinking is contrary to good, sound management, because these are recurring expenses, which should be added into the cost of the installation or based on an annual service charge. This can be charged as a separate item to the customer or added into the cost of the fuel. The main thing is not to overlook this expense; anticipate it and charge it into its proper place.

The amount of this expense annually will depend, of course, on the type of equipment you have, and the manner in whch it is protected from weather and improper handling.

In this connection, it is urged that the industry seriously adopt the policy of installing complete and adequately protected equipment. It is high time that we stopped hanging regulators on the copper tubing without weather hoods, or using paper cartons instead of metal cabinets.

There are now several good manufacturers offering well-designed and economical protection hoods, and to use them on all installations will pay good dividends, by lengthening the life of utilization equipment and maintaining better customer good will and service.

The discussion thus far has referred principally to regulators, but it also applies to meters, relief valves, and similar operating equipment. In fact, any material which is subject to deterioration in service should be placed on a schedule for periodic inspection or replacement.

We are all familiar with the five-year test requirements on ICC cylinders, and from a survey in the field it appears that that test is being conducted by the majority of the operators. The basic reason for the cylinder test is, of course, safety, but if it is a good practice to test cylinders as a safety precaution, then it certainly is a good practice to inspect or replace the operating equipment as a protection to your customer good will.

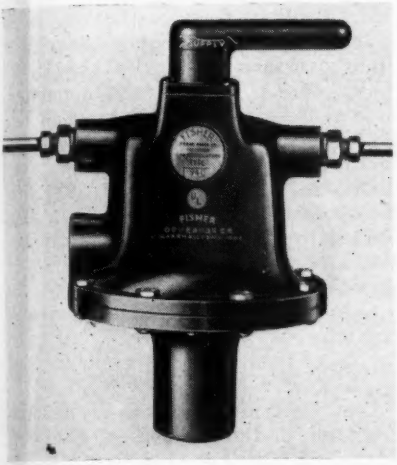
During recent surveys in the field, in reference to the life of regulators, and various fittings, we have discovered a condition which it seems wise should be called to the attention of the industry.

The condition referred to is internal corrosion of copper tubing pigtail connections, which connect the cylinders to the regulator assembly. There have been minor cases of this type of corrosion reported in previous years, but the situations which have been discovered recently are serious and widespread.

It is too early for us to say how extensive this condition may be, or if the seriousness varies with different territories or different types of fuels. The ones we have investigated so far have been operating mostly on odorized propane. However, we have found it in the Midwest and in the East, and further work is being carried on to determine how widespread it may really be.

The corrosion causes the formation of a black or grey, hard scale

inside of the copper tubing. This scale is very easily dislodged when the copper tubing is bent or distorted, such as is necessary when changing cylinders.



A compact regulator with manual throw-over mechanism for controlling two-drum system.

If you want to check your copper tubing connections to determine if you are having this corrosion, simply remove them from service, bend the tube in your hands a few times, and tap it on the end on a piece of paper, and see if any material comes out of it. If you are having the corrosion, you will quickly see a substantial amount of this deposit come out of the end of the copper tubing. If not, the tube, of course, will be clean, and nothing will be removed.

If this scale is dislodged, it is free in the gas stream inside of the tube and is carried into the orifice of the regulator, where it usually lodges between the valve disc and the orifice face, thus causing the regulator to have a high lock-up pressure, and this leads to a blowing relief valve and the loss of gas.

Naturally, the regulator trouble caused by this condition can be very serious, as it usually starts in an area about the same time with all customers, and creates large numbers of customer complaints in a very short period of time.

One case has been discovered where it is so serious that they are contemplating replacing over 50,000 copper tube pigtails with ones made of corrosion resisting material.

It is not known as yet if this corrosion also takes place in the low pressure copper tubing house lines, or if it affects only the high pressure tubing, but it is our belief that it will affect all copper tubing through which the gas passes.

The cause of this corrosion has not as yet been definitely isolated, but one report from one of the large copper companies, which has checked some of these tubes, states that it is a form of sulphur corrosion, which would point to the odorizer, which is a sulphur base material, as a possible source.

This problem appears serious enough, and of such a diversified nature that it would warrant action and study on the part of the Technical and Standards Committee of the Liquefied Petroleum Gas Association. It is urged, therefore, for the good of the industry, that such a study be instituted without delay.

Calor Gas Co. Gets General Petroleum Franchise for Six Western States

OF SPECIAL INTEREST to members of the LP-Gas industry on the Pacific Coast is the announcement that a franchise for distributing General Petroleum Corp. butane and propane in six Western states has been granted to Calor Gas Co., a comparatively new organization with headquarters in Oakland, Calif.

D. D. PURRINGTON

The contract provides for wholesaling General Petroleum Corp. liquefied petroleum gas throughout California and the exclusive distribution of the same products in Washington, Oregon, Utah, Montana and Idaho.

Calor Gas Co. was organized in March, 1945, by five young men of the San Francisco Bay area—Norman A. Proffitt, Bradford M. Melvin, James D. Tayler, Tallent H. Ransome and George C. Demetrak—for the wholesaling of liquefied petroleum gas products. The operating office of the company is at 1916 Broadway, Oakland, Calif. Its products are sold under the trade name—"LiquiGas."

In August, 1945, D. D. Purrington joined Calor Gas Co. as consulting engineer. Mr. Purrington has been associated with Standard Oil Co. of California in various capacities for 29 years. Since 1928 his efforts were devoted entirely to the engineering and marketing phases of the liquefied petroleum gas industry, in which he is well known, having been twice elected vice president of the Liquefied Petroleum Gas Association.

In November, 1945, upon his release from overseas duty with the U. S. Navy, M. A. Nelson was appointed field representative of Calor Gas Co. Mr. Nelson also has a long experience in LP-Gas engineering and sales.

On Jan. 1, 1946, Calor Gas Co. was incorporated; with Norman A. Proffitt elected president and D. D. Purrington, vice president, N. W. Stange is secretary-treasurer.

Calor's first bulk storage plant was put into operation at Weed, Calif., in October, 1945, and is managed by J. M. Keefer.

Last February the company bought a portion of the business of the "99" Butane & Oil Co., Inc., at Merced, Calif. W. C. Ulett is conducting that unit of Calor Gas Co. under the name of "99" Butane Service.

A 50,000-gallon bulk storage plant is now being completed at Tulelake, Calif., for the service of the justly famous Klamath Basin area, under the management of Jack C. Bennett.

The contract with General Petroleum Corp. assures an ample supply for present and future Calor Gas Co. distributors and dealers — in either transport truck loads or tank car shipments.

Although the company, in common with business in general, has been hampered by shortages of steel, copper and brass, it is exerting every possible effort to assist its distributors and dealers in securing necessary equipment, as well as with the counsel of its engineering and sales staff.

Exhibits of New Appliances Will Draw Dealers to Chicago

THE first national convention and industry exhibit of the National Butane-Propane Association will hold forth in Chicago Sept. 23-25 at the Continental hotel.

J. R. VERKAMP

Officers of the Association have made elaborate plans to prepare a program and show that will be of genuine value to those who attend. The current interest in appliances and equipment is at a high point and numerous manufacturers expect to have their postwar models ready for display.

For many attendants the convention will really open Sunday afternoon, Sept. 22, for displays will then be assembled in the booths, registrations will open, and meetings will be held by the executive committee and the board of directors.

All sessions of the convention will be open to all who care to attend except the meeting of active members at 10:30 a.m., Monday, Sept. 23, according to Elwin E. Hadlick, executive vice president. During that meeting the regular

Convention Headquarters

Hotel Continental, Chicago, where National Butane-Propane Association men will meet September 23-25.

C. R. BAILEY

W. E. GOSLIN

committees and officers will make their reports for the past year and elections will be held for the state and district directors who will serve during the coming year. Special committees will also be appointed then.

The open meetings begin at luncheon Monday when Willard E. Goslin, superintendent of the Minneapolis schools, will deliver an address entitled "Ways to Peace."

The principal event for Monday afternoon will be a roundtable conference of State association presidents and secretaries, at which Harry H. Torbit, president of Colorado's dealer group, will preside.

Speakers and their subjects (if announced) and remaining events for the last two days of the convention follow:

Tuesday, Sept. 24. C. R. Bailey, National L-P Gas Institute, Tulsa,

Map of the United States showing the territorial divisions of the National Butane-Propane Association.

Okla., "Safety Training Programs."

J. H. Winton, Winton Automatic Gas Co., Beaumont, Texas, "Operating an Underground System."

Eric A. Flaschar, Dresser Industries, Inc., Cleveland, Ohio. He will discuss bulk plant economics.

Luncheon address: DeWitt Emery, president, National Small Business Men's Association, Chicago. He will talk upon our American way of life for the small business man.

Meeting of Safe Practices and Public Relations Committee, John L. Locke, Northwestern Blaugas Co., St. Paul, presiding.

Banquet and entertainment, 7 p.m.

Wednesday, Sept. 25. Magic of Fire Demonstration, conducted by G. M. Kintz and H. F. Browne, of United States Bureau of Mines.

Luncheon address: Clayton Rand, Gulfport, Miss., subject to be announced.

Check Fire Extinguishers In Interest of Safety

Newly acquired extinguishers supplied by sources other than the manufacturers or their authorized agents should be thoroughly inspected before they are put into service, to make sure they are in operating condition, according to Safety Research Institute, Inc., New York. Those that show evidence of mishandling or deterioration may be dangerous to the user and may not function properly when needed. They should be reconditioned only by the manufacturer whose name plate they bear.

The extinguisher shell, particularly in the case of soda acid and foam types, should be examined for dents caused by falls and for signs of weakening at the seams. Bulges in the shell indicate that the unit has been subjected to freezing or insufficient venting of pressure. Evidence of soldering or other makeshift repairs are also indications that the extinguisher may not be safe for use. Soda acid and foam extinguishers should be checked on hydrostatic testing equipment for their ability to withstand pressure to 350 pounds.

Rubber hoses should be examined for cracks or loss of flexibility, especially where substandard extinguishers bearing EAS approval are concerned. Made during the war, these "Emergency Approved" models were constructed of substitute materials which are subject to rapid deterioration. Porcelain enamel coatings, used on interior parts of EAS pump tanks and foam extinguishers, should be inspected for cracks.

Carbon dioxide extinguishers should be examined for corrosion, damage to the horn, clogging of the discharge nozzle, and damage to the valve. The extinguisher should be weighed to make sure the valve is still gastight. The cylinder should be subjected to hydrostatic test for its ability to withstand pressure to 3000 pounds.

New Propane Company Established at Lake Ozark, Mo.

W. J. Campbell and B. A. Henderson have recently established the Ozark Gas & Equipment Co., with headquarters at Lake Ozark, Mo.

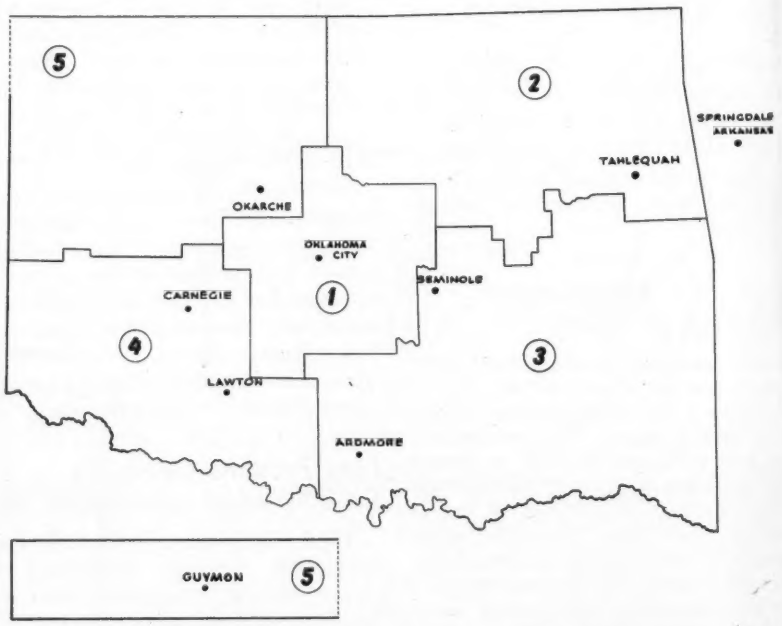
The company will handle propane for bottles and bulk installations, and will sell a complete line of domestic and commercial appliances.

Oklahomans Will Discuss Group Insurance

By O. D. HALL

TOP flight speakers and discussion leaders on subjects of vital importance to the industry in Oklahoma and the Southwest, will be offered at the annual convention of the Oklahoma Liquefied Petroleum Gas Association at the Skirvin Hotel, Oklahoma City, Sept. 18-21, Fred L. Yates, executive secretary of the association, announces.

The "Southwest LPG Appliance Show" will run consecutively with the convention and extend through Sept. 21 to give visitors to the Oklahoma State Fair a full opportunity to see the exhibits. Leading manufacturers will exhibit at the appliance show consumers' tanks, hot water heaters, butane tractors,



Directors of the five Oklahoma state districts are: 1—J. L. Grigsby, Oklahoma City; 2—Steve Miller, Springdale, Ark.; 3—J. O. Green, Seminole; 4—C. O. Whisnand, Lawton; 5—Francis Borelli, Okarche.

"New Freedom" gas kitchens, B-P Gas dispensers, carburetors and systems, safety devices, vaporizers, refrigerators, regulators, floor furnaces, brooders, radiators, fittings, controls, weed burners, transports, space heaters, storage tanks, ranges, griddles, burners, pumps, valves and other appliances and equipment.

The convention will open with a series of discussions especially arranged for the distributors relating to trade practices and the elements of successful liquefied petroleum gas merchandising. Ross W. Thomas, research director, Philgas Division, Phillips Petroleum Co., Bartlesville, Okla., will talk on "The Availability of Butane and Propane."

Safety Talks Scheduled

The morning of the second day will feature discussion of insurance, safety and training of employes. The association is working on a group insurance plan for the industry which will be presented and discussed. During luncheon the second day G. H. Schlatter, manager of the sales training department, American Stove Co., St. Louis, will talk on "Thorough Training of the Sales Force."

Of special interest on Friday morning's program will be a talk by H. Vinton Potter, director of the "New Freedom Gas Kitchen" Bureau of the American Gas Association.

The afternoon session will include talks and discussions on selling and servicing of appliances; also trade practices. Commercial and industrial possibilities of the B-P Gas business will be taken up on the final day. L. G. Fretwell, commercial engineer, Oklahoma Natural Gas Co., Tulsa, will speak on a subject yet unannounced. Harold W. Smith, American Liquid Gas Co., Los Angeles, will talk on "Commercial and Industrial Possibilities of Liquefied Petroleum Gas." Tom Baggett, of Dallas, Texas, will speak on "What the Sizz Weeder Means to the Summer Business."

An inspirational address by Jeff Williams of Chickasha, Okla., will feature the closing luncheon. Special luncheons, entertainment, a style show and other events are being planned for the ladies who attend the convention.

A convention committee, headed by Carl Ticer, Woodward, president of the association, is making the general arrangements. Other members of this committee include: J. O. Green, Seminole; C. O. Whisnand, Lawton; J. L. Grigsby and R. D. Oplinger, both of Oklahoma City.

Dealers from Eight States Invited

The appliance show is being arranged by the trade promotion committee, composed of Francis J. Borelli, Okarche, chairman; Harry Canup and Lewis Hughes, both of Oklahoma City; and Frank De Larzelere, of Tulsa. Manufacturers of B-P Gas appliances and equipment will make displays for butane-propane distributors and appliance dealers of eight states—New Mexico, Kansas, Colorado, Missouri, Arkansas, Louisiana, Texas and Oklahoma. These exhibits will occupy the automobile building at the Oklahoma State Fair grounds.

Testing Laboratories Will Now Approve Appliances for High Altitude Use

By R. M. CONNER
Director, American Gas Association Testing Laboratories, Cleveland

ANOTHER step* towards providing effective, economical, and safe gas appliance service in high altitude regions has been taken by the American Gas Association in the adoption of special additional features in national approval requirements for a number of domestic appliances.

R. M. CONNER

Based upon extensive research both in the field and the laboratory, the new requirements become effective the first of the coming year. They apply to domestic gas ranges, space heaters, water heaters, central heating equipment and hotel and restaurant appliances.

Designed to insure for high altitude gas equipment the same degree of built-in flexibility and satisfactory performance under all service conditions as for appliances for normal low altitude use, they provide for laboratory approval on liquefied petroleum gases as well as other fuel gases.

Obviously such features are essential towards providing customers in high altitude areas with the type of service which they are entitled to expect from approved appliances.

From studies conducted by the National Bureau of Standards and the American Gas Association Testing Laboratories it has been determined that normal appliance approval standards for gas equipment require amplification to insure desired flexibility for high altitude use. This is mainly for the reason that a marked reduction in atmospheric pressure results in greater volume of combustion products. Consequently, appliances must be designed to accommodate lengthened and softened flames and the larger volumes of flue gases which must be handled through flueways and draft diverters.

Since comparatively few appliances are designed especially for high altitude performance, in most instances it is necessary to reduce their normal gas input rating in order to meet the exacting performance requirements specified. Thus, if proper selection of equipment of a sufficiently high gas burning capacity to compensate for

* First written for the Colorado Liquefied Petroleum Gas Association "Bulletin."

MODEL
T-1044 TRUCK PUMP

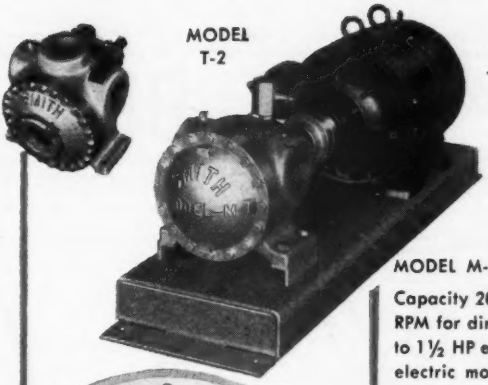
Capacity 20 GPM at 500 RPM shaft speed, for direct connecting to truck power take-off.

MODEL
T-2 TRUCK PUMP

Capacity 50 GPM at 500 RPM shaft speed, for direct connecting to truck power take-off.

MODEL
T-3 TRUCK PUMP

Capacity 100 GPM at 500 RPM shaft speed, for direct connecting to truck power take-off.



MODEL
T-2

MODEL M-2

MODEL M-1044 PUMP

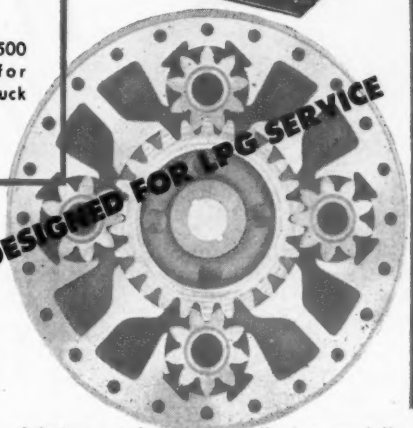
Capacity 20 GPM at 1800 RPM for direct connecting to 1½ HP explosion-proof electric motor.

MODEL M-2 PUMP

Capacity 50 GPM at 1800 RPM for direct connecting to 3 or 5 HP explosion-proof electric motor.

MODEL M-3 PUMP

Capacity 100 GPM at 1800 RPM for direct connecting to 5 or 7½ HP explosion-proof electric motor.



ESPECIALLY DESIGNED FOR LPG SERVICE

The efficient pumping of butane and propane calls for specialized equipment — and Smith Precision Pumps are THE PUMPS designed for LPG service.

Consider these Smith features before selecting a pump for your new installations. . . .

1. The balanced gear construction provides for the continuous and automatic adjustment of the pumping elements to the close working clearances necessary to maintain efficiency.
2. Smith Pumps are designed to operate without internal lubrication.
3. Smith Precision Pumps are supplied with a special fluid-sealed packing box which eliminates hazardous leaks with a minimum of service attention.

For other information and detail dimension drawings, write for our new Bulletin K-646.

Immediate delivery on all pump models. At present we can supply M-1044, complete with base, coupling and 1½ HP explosion-proof motor from stock. Specify whether for use on single or 3-phase current. **Send for Catalog No. K 646**

SMITH
PRECISION PRODUCTS COMPANY
1135 MISSION STREET • SOUTH PASADENA, CALIFORNIA

It's smart to give them what they want!

Promoting a best seller is still sound merchandising practice. And boom or no boom, the best seller always is a *good product* and a *top value.*

Any appliance buyer knows, and incidentally, so does a customer, that the important features about a gas range are not the ginger bread dressing, but its cookworthiness, quality standards and appearance. If you can offer your customer all three plus a *top value*, you are selling the right line. And if you are turning over more units at a maintained profit, that adds up to successful merchandising. That about sums up the kind of thinking that goes on at Welbilt.

When production catches up to demand, every Welbilt dealer will be in a mighty sweet position in his community because the Welbilt gas range will be not merely another stove line, but a corner stone of security.

Welbilt Stove Co., Maspeth, L. I., N. Y.

MORE Welbilt Ranges WILL BE DELIVERED SOONER!

this reduction is not made, the result is apt to be unsatisfactory service.

Consequently, it is most important that appliances selected for high altitude not only are approved for such use but that their input ratings are sufficient for proper performance under such conditions. These factors should be carefully observed regardless of the type of gas utilized and should be given special attention when liquefied petroleum gases are employed.

Experimental work conducted for the purpose of establishing high altitude approval requirements conclusively brought out the fact that the maximum practical input rate is not approached gradually but appears abruptly at a critical point. Thus, in those instances where the original design of a particular appliance closely approaches the critical point under low altitude test conditions, very little flexibility remains for properly meeting the more severe service conditions of high altitude use.

Appliances Specially Marked

In order to simplify the problem of selecting equipment for high altitude use and make its proper choice an easy matter, the new standards require a separate marking on appliances indicating approval for such use. All models equipped for liquefied petroleum gases must bear a specific marking to this effect. The high altitude input rating for all burners except those for which minimum ratings are specified must also be clearly and permanently shown.

After Jan. 1, 1947, separate listing of appliances approved for high altitude use will be made in the Directory of Approved Gas Appliances and Listed Accessories published periodically by the American Gas Association Testing Laboratories. An additional section under an appropriate heading for each type of appliance so approved will follow immediately after the respective regular section in the directory.

All appliances approved for use with liquefied petroleum gases will be clearly listed under the heading "For Use With Liquefied Petroleum Gases." Footnotes on each page will call attention to the fact that ratings listed are either for low or high altitude, as the case may be.

Test Procedures Distributed

Detailed high altitude test procedures were recently published and distributed to the industry. They include specific test for combustion, performance of main and pilot burners, determination of flue and surface temperatures, and charting of performance under varying conditions of draft. The Laboratories are prepared to test appliances under the new requirements immediately.

Adoption of the new requirements and their approval as American Standard by the American Standards Association followed extensive research conducted both by the National Bureau of Standards and the Laboratories. Extensive experiments were performed in the field and at the National Bureau

For High-Pressure Use with **PROPANE** *and* **BUTANE**

ADEL

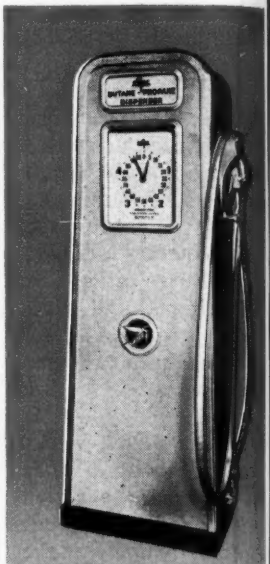
L. P. G. DISPENSING EQUIPMENT

Safety, speed and accuracy in the metering of high-pressure fuels, plus precision manufacture of all parts, is the reason why ADEL LPG dispensing equipment holds the dominating position in its field. Engineered and built to meet all requirements of the National Board of Fire Underwriters, Bureau of Weights and Measures and the Liquefied Petroleum Gas Industry, the ADEL Dispenser is approved by the Board of Fire Commissioners of the City of Los Angeles.

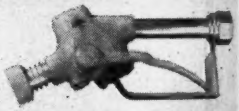
Write for catalog and installation information.
Please address inquiries to

ADEL

PRECISION PRODUCTS CORP.
10608 Van Owen Street, Burbank, California



THE ADEL DISPENSER a Remote Control unit, has 100 gallon dial with 1 to 5 gallon markings and ¾ inch high-pressure LPG Hose.



ADEL BUTA-FILL NOZZLE a fast coupling, automatic dispensing nozzle, is light of weight and very maneuverable with ¾ inch and 1 inch connections.

For Sales and Service

Western and Pacific Coast States
SHIELDS-HARPER
Hdqs.: 361 17th Street, Oakland 12, California
2212 4th Avenue, Seattle 1, Washington
403 Northwest 15th Avenue, Portland 9, Oregon
241 West Adams, Los Angeles 7, California

Central and Midwest States
UNITED PETROLEUM GAS COMPANY
135 South La Salle Street, Chicago 3, Illinois
1038 McKnight Building, Minneapolis 1, Minnesota

South Central and Southwest States
TANK SALES & EQUIPMENT COMPANY
3406 Main Street, Dallas 1, Texas
Delta Tank Manufacturing Company
Louisiana, Arkansas, Mississippi and Alabama
(Headquarters: Baton Rouge, La.)
Consolidated Gas & Equipment Co., Plainview, Texas
Southern Service Company
1114 Chenevert Street, Houston, Texas
San Antonio Equipment Company, Ltd.
641 Main Avenue, San Antonio, Texas

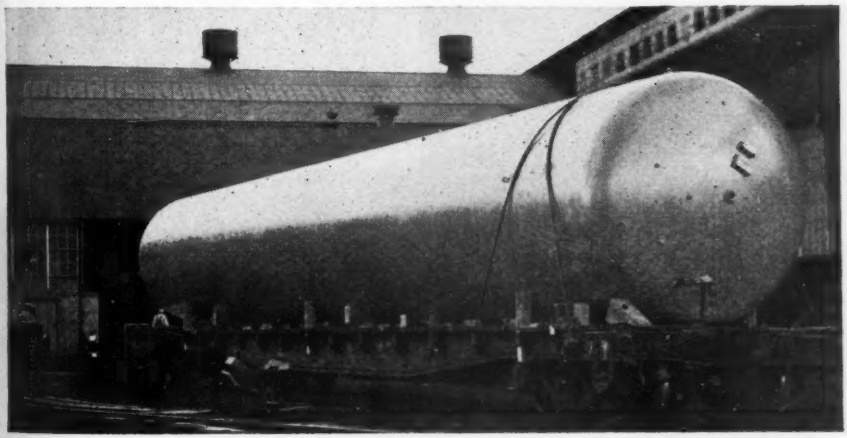
In Canada: RAILWAY AND POWER ENGINEERING CORPORATION, LTD.
Montreal, Toronto, Hamilton, Northbay, Winnipeg and Vancouver

of Standards, using the Bureau's special test chamber to simulate high altitude conditions.

From these studies methods were developed for conducting test for high altitude approval at low altitude without the use of a special chamber. The special chamber method was considered impractical for large-scale testing operations for the reason that it would be both more expensive and time-consuming than closely correlated results obtained otherwise. In addition, it would be impractical and inconvenient for manufacturers to use in development work. The method finally adopted may be readily employed by manufacturers or others in their own testing operations.

Under the procedure now established high altitude tests for all city gases, including LP-Gases, are conducted at low altitudes such as usually prevail at normal pressure but with main and pilot burners adjusted to consume 26% in excess of their rated input to simulate condition prevailing at high altitude. This procedure is equivalent to testing at 5200 feet above sea level, using the rated input. For purposes of definition, high altitude is considered as any elevation between 2000 and 5200 feet above sea level.

Equipment approved for high altitude may be utilized at its high altitude name plate rating for all elevations up to 5200 feet. For high elevations the rating shown should be reduced 5% for each 1000 foot increase above 5200 feet.



One of 6 tanks supplied the Birmingham (Ala.) Gas Co. by the Chicago Bridge & Iron Co. Each of the tanks is of 30,000 gal. capacity, 106 in. in diameter, and 62 ft. 6 in. long.

Range Sa

TOP: D. S. Sharp, assistant sales manager, leads "refresher" course for Tappan salesmen—H. V. Miller, E. H. Jelliff and R. A. Sams.

CENTER: One phase of home service in the Tappan plant means salesmen are taught to successfully use range they sell.

BOTTOM: Betty Brown and Donald S. Sharp plan cooking demonstration aids for salesmen.

Sa[illegible]fluenced by Feminine Ideas

In Design — In Demonstration

By BETTY BROWN
Home Service Director
Tappan Stove Co., Mansfield, Ohio

VERY little has been said about the work that a home service department plays in promoting the sale of gas and gas appliances.

It is my opinion that this department takes an active part in promoting sales and should occupy an important place on the company's organization chart.

The following is not a story on what should be done, but rather a brief outline of our method of operation here at the Tappan Stove Co.

Home service, as applied to Tappan, has a general meaning: "Establishing and continuously raising the high standards of our gas range." From original design conceptions until the range is in the consumer's home—and while she is using her range—the home service department gives assistance in the form of a woman's touch, whenever needed.

The importance of the LP-Gas range is particularly stressed. In this particular category, a housewife probably is using a gas range for the first time and it is part of our job to have her as a satisfied owner and to acquaint her with the multitude of advantages to be found by "cooking with gas."

Our main function is the laboratory testing of our range. Top burner cooking, baking, roasting and broiling are given the "acid test" before the range is sent to the American Gas Association Testing Laboratories for final testing to determine its compliance with AGA specifications. Every new model requires days of testing to insure the certainty that our range gives the best performance possible.

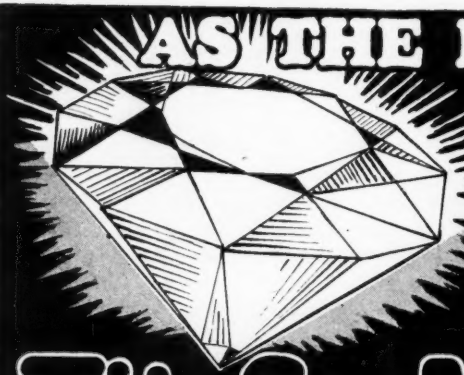
Spot checks are conducted periodically on ranges coming off the assembly line. In this method we can be sure our customers are getting a gas range which gives good cooking performance.

New devices on the market are constantly tested and their practicability as a part of the range is studied. Testing of new recipes, new food products and new methods of cookery are carried on. We want to offer as many conveniences as possible on our gas range, but we also want to be sure that all features are practical and not just pretty "gadgets."

Tappan customers, constantly asking for new helps on menu planning, broiling, baking problems and recipes, create part of the avalanche of correspondence handled in our department. Information is also requested and given to the home service representatives of utilities, dealers and women's magazines.

Some of the out-going mail from

AS THE DIAMOND STANDS OUT AMONG GEMS



TiteSeal

STANDS OUT AMOUNG SEALING COMPOUNDS for L-P gas installations

TiteSeal Gasket and Joint Sealing Compound is especially compounded and recommended for use on butane, propane and other L-P gas installations

TiteSeal IS HEAT AND COLD PROOF

It never hardens never "bakes out," never shrinks, cracks, or crumbles, that's why it's ideal for outdoor L-P gas connections

TiteSeal IS VIBRATION PROOF

It always remains plastic absorbing shocks and vibrations without losing its grip or sealing qualities

TiteSeal IS PRESSURE PROOF

It is unmoved by pressure and its film of protection against leaks never breaks It protects metals against corrosion and because it never hardens or dries out—permits easy disassembly when necessary

TiteSeal IS ABSOLUTE LEAK PROOF

It withstands all gas pressures, is not affected by gas, oil, water, acid, alcohol.

THE L-P GAS INDUSTRY IS TiteSeal BOUND

SOLDER SEAL TiteSeal PRODUCT

RADIATOR SPECIALTY COMPANY

CHARLOTTE 1, NORTH CAROLINA

- RADIATOR SPECIALTY COMPANY OF CANADA, LTD. TORONTO
- GOLDEN STATE RUBBER MILLS. LOS ANGELES. CALIFORNIA

here, in the form of publications, gives the new Tappan owners helpful suggestions on gas cookery problems, care of the range and a complete time and temperature guide for all types of cooking. This is contained in "Tel-U-Tips," a publication for home economists, and "Owner's Guide," a booklet for the Tappan owner.

Cooperating with the sales department in planning cooking demonstrations for Tappan sales representatives has showered added interest on the product and demonstration stories now being told to dealers throughout the country. Representatives, following their cooking course at the plant, are able to cook a complete meal in the course of demonstrating the Tappan at the various meetings.

Before the representative goes on the road, he is briefed, and performs the domestic tasks of baking, broiling and roasting. He is a qualified cook, in his own right.

The possibilities of a home service department are unlimited. It is to the advantage of every aggressive LP-Gas dealer and distributor to give careful consideration to establishing for himself a home service department to help promote satisfied customers who have switched to gas from other fuels.

Intensive Campaigning Sells New B-P Gas Customers

LIQUEFIED Petroleum Gas dealers throughout the country are campaigning for a balance between their summer and winter loads. Now that war time restrictions have been lifted and deliveries of appliances and equipment can be expected momentarily, this program can go ahead successfully.

E. Reed Whittle, president of the Natural Gas and Appliance Co., Orlando, Fla., has this to say regarding his company's activities:

"We are working hard to build up our summer gas load and with a great deal of success. Our first program is to increase the year-round use of our gas among our old customers by approaching each one individually to see if there is any way of increasing their summer load through the use of water heaters and Servel refrigerators.

"We are investigating every possible commercial and industrial use for gas, with the result that we have added quite a number of desirable gas loads such as large frying vats for potato chips, lead melting and also aluminum forges for melting aluminum which is in turn used in aluminum castings of all types.

"For the past three months, one of the officers of this company has been making a personal call on every old customer to inspect his equipment to be sure that every piece of gas equipment is operating as efficiently as possible and that each customer thoroughly understands the operation of his equipment. We are trying to replace any obsolete equipment and, of course, work toward the all-gas house as rapidly as possible. We find that in many cases we can persuade customers to wait for gas equipment; whereas, had this contact not been made, many would have bought electric equipment without contacting us.

"We have instituted a Veterans' Training Program involving 14 veterans. This is in addition to our regular service organization. These men are intelligent and are learning the gas business as rapidly as possible under an intensive training program which has been approved by the government."

Learn the Facts About LP-Gas If You Would Avoid Accidents

By J. O. GREEN*

President, Oklahoma Liquefied Gas Co., Seminole, Okla.

THE subject that has been given to me is "Rules Governing Transporting and Dispensing Liquefied Petroleum Gas," but what I have to say may deviate somewhat from the subject. I feel that if you knew why we have regulations, you would appreciate them more and show them more respect, so most of my talk will be on the importance of knowing what you are handling.

J. O. GREEN

From my experience over the past 30 years in manufacturing liquefied petroleum gases, I have been made to believe that the only way that anyone can adequately understand and safely handle liquefied gases is to have a thorough knowledge of the fundamental natue of them.

If you know what to expect from the product that you are to handle and if you knew what the product will do under certain conditions, then what to do with it becomes second nature, more or less, but if you do not know its nature nor what the product will do under certain circumstances and conditions, to my way of thinking, it is impossible for you to know just what to do.

Those of you who have heard me talk on this subject before, no doubt feel that I emphasize knowing the liquefied gases more than any other one thing.

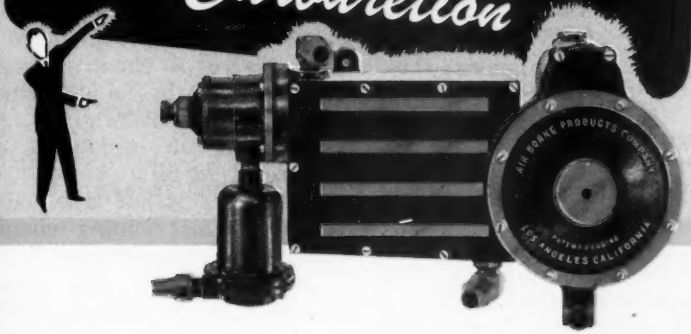
I believe that the first thing that any dealer and/or drivers of trucks should know is the vapor pressure of the gas. And then, if he knows the working pressure of the vessel into which he is putting the gas, he will know what would happen under certain temperature conditions and if it is safe to put the gas into his truck tank.

That you may more fully understand what I mean by knowing the nature of liquefied gas, I want to give you some information that has been obtained by actual laboratory tests and also some information that is theoretical.

There is a difference in the vapor pressure of butane and propane mixtures coming from different

* Paper delivered before the Liquefied Petroleum Gas Safety Meeting at Oklahoma City, Okla., May 7.

Air Borne
A NEW NAME IN Carburetion



Air Borne now has its factory going at full capacity making butane-propane carburetors.

The Air Borne converter unit is not new. It has been in engineering development for over two years. *It has been road-tested more than a year and a half,* in the hands of outstanding dealers in the Southwest.

- It has new design, giving compactness and fewer moving parts.
- Easily accessible, the entire assembly can be overhauled without removing it from the vehicle.
- Oil in the fuel cannot settle in the regulator to impede the operation of the diaphragm and working parts.

FURTHER INFORMATION WILL BE GLADLY SENT ON REQUEST

Air Borne Products Company
1829 East Randolph Street, Los Angeles 1, Calif. ★ LUcas 0185

DEALERS' TERRITORIES NOW BEING ALLOCATED

plants. However, nearly all of them are close enough to make no appreciable difference in the quality of the gas.

Table 1 shows the theoretical vapor pressures of butane and propane and various mixtures thereof.

TABLE 1. THEORETICAL VAPOR PRESSURE

Percent of Mixture	*Temperature*	*Vapor Pressure*
Pure Butane	100° F.	38 lbs.
Butane 90%—Propane 10%	100° F.	52 lbs.
Butane 80%—Propane 20%	100° F.	64 lbs.
Butane 70%—Propane 30%	100° F.	75 lbs.
Butane 60%—Propane 40%	100° F.	88 lbs.
Butane 50%—Propane 50%	100° F.	100 lbs.

The figures in Table 1 are for pure hydrocarbons but such are not obtainable in the average natural gasoline plant. The fractionization of each hydrocarbon to a pure product is not always practiced, and neither is it always necessary.

In 1941, taking the butane-propane produced in the Seminole area from all of the gasoline plants, I found from actual laboratory tests that the average of them, compared with what I have already given you in regard to pure hydrocarbon, is as below.

However, such conditions in vapor pressures do not now exist at any plants I know. There may be some plants, not only in Oklahoma but in other fields, that do not fractionate to a close enough product but the comparisons here are merely to show you that there can be and, at times, are differences in liquefied gases.

The 1941 tests showed that the vapor pressure of pure butane at 100° is approximately 47 lbs. This, you will note, compared with the pure hydrocarbon at 9 lbs. higher in vapor pressure. With 10% propane and 90% butane the vapor pressure at 100° is approximately 68 lbs.; compared with the theoretical vapor pressures of pure hydro-carbons, it is 16 lbs. higher. In a blend of 20% propane and 80% butane, the vapor pressure at 100° is approximately 82 lbs., a difference of 18 lbs. 30% propane and 70% butane gives a vapor pressure at 100° of 95 lbs., a difference of 20 lbs. 40% propane and 60% butane gives a vapor pressure at 100° of 110 lbs., a difference of 22 lbs. A 50-50 blend gives a vapor pressure at 100° of 128 lbs., a difference of 28 lbs.

The above is not true today as practically all refining companies make a 98% pure product.

As stated above these comparative tests were made in 1941 and to my knowledge they do not now exist and the refining companies are to be complimented on their close fractionization and cooperation with the existing laws in regard to vapor pressures.

Vapor Pressures Vary

You can see by the comparisons that vapor pressures from different plants have got to vary. They vary according to the blend and they vary according to the vapor pressure of each product before blending. I also think you can see the importance of knowing what is the vapor pressure of your liquefied gas.

I am sure that there are not many dealers who know that there is a considerable group of hydro-

will introduce its newest bottled gas housing at the NATIONAL BUTANE-PROPANE ASSOCIATION TRADE EXHIBIT, Continental Hotel, Chicago. see the improvements that have been made in the new STAMPINGS' LINE OF SUPERIOR HOUSINGS AT PRODUCTION PRICES.

●

P.S. If you can't attend the show—ask us to send you a folder on this new unit. Write STAMPINGS INC., DAVENPORT, IOWA.

carbons that are obtained from casinghead gases. I wish to give you a little information in regard to these different types of hydrocarbons that you might give them more respect when you are handling them.

The first two are never used as a liquefied gas. The vapor pressures are entirely too high and they would be much too dangerous to attempt to use. Methane, which is one of these hydrocarbons, has a pressure at 100° of 4200 lbs. per square inch. Ethane is another one that we do not care to use. Ethane has a vapor pressure at 100° of 775 lbs. per square inch.

Some Ethane in all LP-Gas

It is true that there is a small percentage of ethane in practically all liquefied gases that are manufactured for domestic use. Where a large percentage of methane or ethane gases are left in the liquefied gas it makes it dangerous because different hydrocarbons, even though they have once been in liquid form, will gradually separate when in storage if left stored in a stationary tank when the gas is not taken off from the top of the tank. This is one reason why it is so necessary for truck tank safety valves be made to pop periodically.

Propane is the next hydrocarbon and pure propane has a vapor pressure at 100° of 176 lbs. per square inch.

Isobutane is your next hydrocarbon, but it is not referred to when we are talking about liquefied gases.

Normal butane is the next hydrocarbon and pure normal butane at 100° has a vapor pressure of 38 lbs. I have already given you the vapor pressure of the blends.

I think it is important that you have this information because, to me, it is very vital to know the vapor pressures of the different liquefied gases and different blends. I also think that it is very necessary for the driver of liquefied gas trucks, as well as the owners and operators of liquefied gas companies, to know that even though you only have 50 gallons of liquid gas in your tank of a 50-50 blend, the pressure on your tank at 100° is approximately 100 lbs. You can readily see the importance of knowing what to expect when the vapor pressure is known.

Give Drivers Full Information

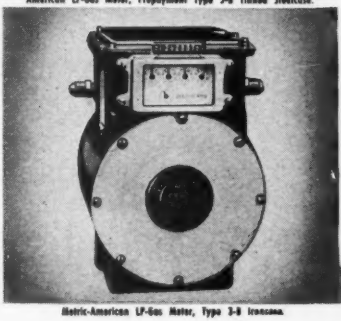
I believe that each truck driver should be furnished with a table showing the proper inage allowed for the particular gas that he is loading. This would be easy to provide. The information could be obtained from the company from which gas is purchased. It is entirely possible to make a table for each truck showing a safe inage or safe percentage to fill the tank. I believe that it is the custom of nearly all refining companies to have a qualified man to fill all trucks when gas is being purchased at the gasoline plants. But if I were a gas dealer, I would insist that my driver check the percentage of gas put into my trucks and, if I were the driver, I would insist upon

Checked by the record of thousands in service

American LP-Gas Meter, Type 5-B Tinned Steelcase.

American LP-Gas Meter, Prepayment Type 5-B Tinned Steelcase.

American LP-Gas Meter, Type 2-B Tinned Steelcase.



Metric-American LP-Gas Meter, Type 3-B Ironcase.

THE preference of leading LP-Gas distributors for American Meter Company meters is fortified by substantial reasons . . .

A complete line of effective instruments for metering and controlling butane-propane vapors. American Meter Company experience and manufacturing responsibility give valid weight to its recommendations on the correct application of LP-Gas Meters and Regulators. For 105 years, the manufacturers have successfully anticipated the needs of the Gas industries.

*** NEW CATALOG LPG-4 gives valuable data on LP-Gas metering with instruments scientifically suited to the purpose. If you have not received your copy, please write.**

GENERAL OFFICES • 60 EAST 42ND STREET, NEW YORK, N. Y.

AMERICAN METER COMPANY

INCORPORATED (ESTABLISHED 1836)

A-1405

the proper amount being put into my truck tank.

The proper filling of liquefied gas tanks is one of the most important things that confronts the liquefied gas dealer.

I am sure the major accidents that have happened in the industry have been caused by the improper filling of tanks. And I am also sure that the cause of this is the lack of knowledge of the nature of the gas.

Knowing liquefied gases, I think, should be the first job of the liquefied gas dealer, the man who owns the company. He then could talk to his men with authority and assurance, but if he does not know the nature of the gases, he would not recognize bad habits in the drivers. He wouldn't even recognize sloppy operations in any respect. He also could not expect his drivers to take the time to learn the fundamental nature of the gases if he did not have enough interest in his own business to obtain the information, himself.

Follow State Regulations

As to rules and regulations governing the transport and dispensing of liquefied gases, I could do nothing better than refer you to those compiled by your state fire marshal and I do recommend, and wish I could request, that you follow these rules and regulations to the letter.

It would take too long to go into all of the different rules and regulations but I would just like to mention a few of the things that should be done, that should always be done and, if observed and practiced, will prevent a lot of accidents. Many of these you will not find in your rules book but they are good and it is good to practice them

1. Never depend on your emergency brake, only, to hold your truck; alway carry a block to put under the wheel and always put it under the wheel when you stop. Regardless of whether or not you think it necessary, block the wheels. It isn't necessary to go into details as to what might happen if you connected your hose and your truck rolled away. The block will prevent that from happening.

Make One Man Responsible

2. If two men are on the truck, detail to only one of them the responsibility of loading and unloading. Where one man depends on the other to do something, sooner or later they will both get in the truck and drive off with the hose connected. Don't kid yourself—this has happened many times.

3. Always connect the vapor return line when filling a tank. You may not think this is necessary because it takes a little time, but it doesn't take time—it saves time and it saves wear and time on equipment.

When taking connections loose from the tank you are filling, always first shut off your motors. This should be another must in your safety rules.

Never leave your truck or the immediate vicinity of your truck while you are pumping or transferring liquid to and from the truck and, above all things, never lay down in the truck to go to sleep as I have seen some drivers do. I know of no better way to invite accidents than to either leave the truck or to go to sleep while it is in operation.

4. Never fill a tank above 90% full

PROVEN BY PAST PERFORMANCE

Sprague Meters ..ARE LEADERS IN LP-GAS MEASUREMENT

Designed to meet the requests of industry leaders, *Sprague Meters* have consistently demonstrated the soundness of their fundamental principles, the rugged sturdiness of their construction.

You are assured of precision service and full satisfaction to yourself and your customer when you specify "*Sprague.*"

- **DEPENDABLE**
- **ACCURATE**
- **LOW IN COST OF MAINTENANCE**

The SPRAGUE METER COMPANY BRIDGEPORT, CONN.
DAVENPORT, IOWA • HOUSTON, TEXAS • LOS ANGELES, CAL. • SAN FRANCISCO, CAL.

under any circumstances and if in doubt, it is better not to fill it at all than to fill it too full. Maybe you have gotten by a number of years by filling tanks full, but one of these days, if you continue it, you will regret it.

Giving proper attention to unloading pumps is one of the duties very much neglected. A lot of pumps are so located under the truck that the packing and pump shaft are out of vision. The pump should be so located that the stuffing box can be readily seen and so as to give the pump packing proper attention. This will eliminate practically all possibility of leaking. Here, too, a thorough knowledge of pump packings is necessary. If you do not have the knowledge of the packing principle of the pump, then it is impossible for you to properly take care of it. It is not hard to properly pack pumps, but you must have an understanding of the principle of packing against liquefied gas.

Use the Right Packing

This information can be obtained from the people who build your pump, or from any leading packing company. There is a packing made for packing against liquefied gas, but if you use a kind not especially made for these gases, then you will have trouble.

If you handle both propane and butane gas and your equipment is for 200 lbs. W. P., never use a hose under 350 lbs. W.P. Also, never use a hose from which the rubber coating has peeled off in spots and the fabric exposed for any length of time. It is also very wise to discard any hose after two years' service if it is consistently exposed to the elements.

After a hose has been used even for a short period of time and the valve has been shut on each end of it, trapping the liquid, there is no way of knowing the strength of the hose thereafter because the excess pressure caused by the trapped liquid has likely ruptured the hose in many places.

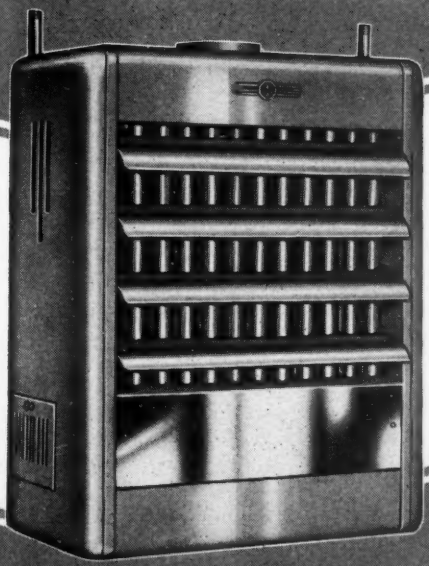
Should Always Have Pressure Gauges

It is also important to have pressure gauges that you know are right. You can't look at a tank and tell how much pressure you have on it. It is necessary to know the pressure on your equipment and it is necessary to know the pressure on your tank. It is good practice to put pressure gauges on the discharge of your pump as well as on the tank. Pressure gauges should be put where they can be seen easily.

Safety valves should be made to work at least every six months, and under no circumstances should they run longer than a year, without popping them at the proper pressure. If you do not have equipment necessary to make the tests of the pop valves, most gasoline plants do. It would not cost much to have extra valves that have been tested by a competent testing laboratory. And they could be changed periodically, perhaps saving a serious accident.

It is all right for you to test your valves to see if they pop at the proper pressure, but it is never all right for you to change the setting

HUMPHREY
GAS UNIT HEATERS



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Humphrey Unit Heaters are complete heating plants in themselves. Easily and quickly installed, they offer your customer the finest in gas heating equipment. Every owner appreciates the money-saving and space-saving features of these heaters. Their modern styling and advanced engineering guarantee continued acceptance by your trade.

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on a valve. When a valve does not close or open properly at the proper pressure, it should be sent to the factory for reconditioning and resetting. If you tamper with the setting of the valve and something happens and you get on the witness stand, it might be embarrassing to you, so you had better let the manufacturers take care of the valve for you.

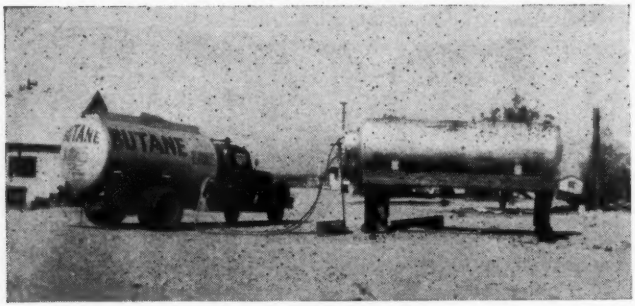
You should also be sure that your ground chain is touching the ground at all times; you should be sure that your tank is thoroughly grounded to the truck chassis, and that your hose is supplied with the ground wire running the full length of the hose and securely connected to the fittings in the end of the hose.

I know that to some of you some of the things I have mentioned here sound more or less silly. You're likely saying to yourself, "I knew this years ago and I know all of the things that you have mentioned and I observe them all the time."

If that is the case, then you are not the fellow I am talking to. The men that I am talking to are the ones that do not know the hazards of handling liquefied gas. The people who make the liquefied gas business dangerous are the ones who do not know what they are doing.

I have seen common garden hose used for a vapor return line and I have seen ordinary, low pressure, steam hose used for liquid lines, and when I called such practices to the attention of the individuals, they were surprised to learn that there was any danger involved.

A two-year-old child that never saw a rattlesnake would not hesitate to play with it, pick it up and handle it; but when the child becomes older and wiser and knows what the snake can do, it treats it with respect. I think the man handling liquefied gases is in similar circumstances. At first he does not know that any danger exists and he is innocent of any wrong doing, but when he gains a practical knowledge of liquefied gas, he then handles it with respect.



▲

Desert bulk plant of J. C. Myers, Mojave, Calif.

▼

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We at the factory and our dealers are in a position to serve you with Rotary Gauges, Filler Valves, Vapor Return and Relief Valves, Slip Tube and Fixed Liquid Level Gauges, P.O.L. Pigtails and Adapters, Cylinder Valves, L.P.G. Regulators and many others.
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BETTER FITTINGS IMPROVE YOUR PRODUCT

No Frozen Switches Where Propane Installed

IF you have ever been a traveler upon our American railroads, let your memory go back to a night of travel which you must have experienced. It is bitterly cold, the snow is swirling around your train as it hurtles through space, and even sifts in at the smallest opening. You are half dozing in your warm and comfortable berth, and thanking heaven that you aren't one of the two fellows up on the head end of the train that are having to face the storm and bring through to a destination on schedule the human freight for which they are responsible.

You may be rushing through the stormy night at 80 or more miles per hour. Suddenly you feel a slight lurch and hear the click and crash as your Pullman races through a crossing or by a siding. "Just another switch," you think, and dismiss it this lightly from your mind.

That switch, which to you is just another minor detail of traveling is a matter of major importance to the railroads, and the cause of many headaches.

A whole volume could be written about railroad switches. There have been many types developed prior to almost universal acceptance of the type which American railroads use today. Fortunes have been spent in designing interlocking switch and signal systems which are supposed to be fool-proof. At one point all of them have been fallible. That is when King Winter reigns and buries the switches in snow, ice, or sleet. Designers have not yet been able to prevent railroad switches from freezing under these conditions without applying artificial heat.

In the application of heat to railroad switches the whole fuel field has at one time or another attempted to solve the problem. Pans filled with charcoal coals were once used. These required constant attendance; the cost of the fuel was prohibitive and it was difficult to procure in necessary quantities.

Steam, either directed against the rails from jets or piped against them from heating pipes laid beneath the rails, has been tried. This method was also expensive, steam pipes would break under the vibra-

By C. C. TURNER

Special Representative
Butane-Propane News

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The broad experience, engineering advice and consulting service of the Warren organization are available without obligation.

WARREN PETROLEUM CORPORATION
TULSA, OKLAHOMA
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tion of heavy trains passing over the roadbed, and in the case of steam jets an ice condition developed from the water which condensed from the escaping steam.

A Phillips switch heater burner.

The electric industry tried to apply electric heating units to the side and beneath the rails. Heating elements would break from the vibration almost as fast as they could be installed. The cost of running heavy electric cables to switches was prohibitive. The expense of electric current for this purpose was something to cause bankruptcy if the railroads had made a universal application of them.

There is also an inescapable condition of railroading which makes the use of electric switch heaters at all points impractical. American railroads pass through vast stretches of uninhabited territory and thousands of Hardscrabble Corners where electric current is either not available or the source is not dependable.

Another objection to electric heaters is that the very time that they are most needed is the time when there is most likely to be an interruption in electric service!

For many years the railroads depended on oil pots or flares for heating switches. While these pots were inefficient as to fuel consumption it must be admitted that the grade of oil was cheap enough so that this inefficiency was unimportant.

There still remained, however, the necessity of frequent attendance to refuel these pots, and then there was the danger of an open flame. What this danger was can best be realized by picturing the possibility of a freight train stoping on a switch with a loaded gasoline car directly over the switch heaters. If the outlet connection beneath the tank car was leaking (and they frequently do), this condition spelled disaster.

It remained for the engineering department of the Phillips Petroleum Co. to solve the switch heating problem by the application of propane heaters. Several winters and thousands of dollars were spent in perfecting a fool-proof system.

A special burner of simple design and rugged construction has been perfected and is now in use by many railroads. Eight burners are usually installed at each switch. Gas is piped to each burner at 5, 10 or 15 pounds through a flexible high pressure hose (12 in Figure 1), this hose being similar to that used in connection with self-service of cash-and-carry gas equipments.

The gas passes through a small orifice (7) thereby entraining sufficient air to make a completely combustible mixture. Combustion occurs entirely inside of the burner tube (1) and the hot products of combustion are vented from the

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MODERNS PREFER GAS

WEDGEWOOD LEADER IN THE WEST

JAMES GRAHAM MFG. CO.

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burner tube through slots in its upper surface. These hot gases discharge against the burner canopy (10), the canopy being in contact with the base of the rails.

Because combustion occurs inside of the burner tube, perfect combustion is obtained, this resulting in high efficiency. This type of construction also results in a very stable flame which cannot be extinguished by high winds, fast trains, or heavy snow. By confining the flame to the inside of the burner tube safety is acquired, for the only access that an inflammable gas, such as gasoline vapors, would have to the burner and flame would be through the air intake. This would result in an over-rich mixture which would be extinguished because of lack of sufficient oxygen to support combustion.

In Figure 2 is shown the schematic arrangement of a switch heating installation. The pressure regulating equipment is quite similar to the automatic manifolds of the pressure differential type such as are used in connection with conventional domestic and commercial B-P Gas installations.

The indicating gauge, instead of having a dial which merely reads "Reserve" and "Service", is graduated in pounds of pressure, this being so that outlet pressures can be adjusted to 5, 10, or 15 pounds. A differential of 5 pounds is usually

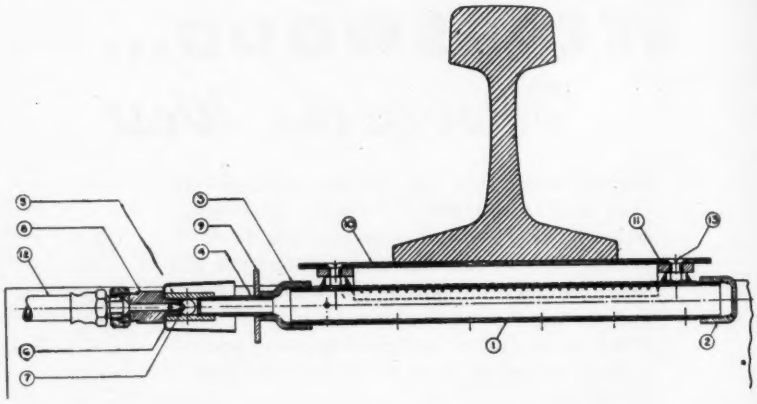

Figure 1

1. Tube
2. Cap
3. Reducer
4. Nipple
5. Coupling
6. Sleeve
7. Orifice
8. Connector
9. Baffle
10. Canopy
11. Arm
12. Hose
13. Screws

Fig. 1. Schematic drawing of a switch heater burner in position.

THERE IS NO GAMBLE TO THIS "WINNING TIP"

The dealers who display, merchandise, sell and install United States Water Heaters are winning in every way — new friends, loyal customers, substantial profits. There is satisfaction in every sale — for both dealer and customer — why? Because United States Water Heaters are High in Quality — Low in Cost — Economical in Operation — Dependable in Performance — Long in Service.

Exclusive performance features are built into all models, insuring positive satisfaction, whether the model be for bungalow, mansion, apartment house, restaurant, hotel, school, or any other domestic or commercial application.

STANDARDIZE ON U·S·H

A wide range of models provides dealers with unlimited fields of sale from one water heater manufacturer, thus permitting a dealer to standardize on the famous line of United States Water Heaters for the requirements of all of his customers.

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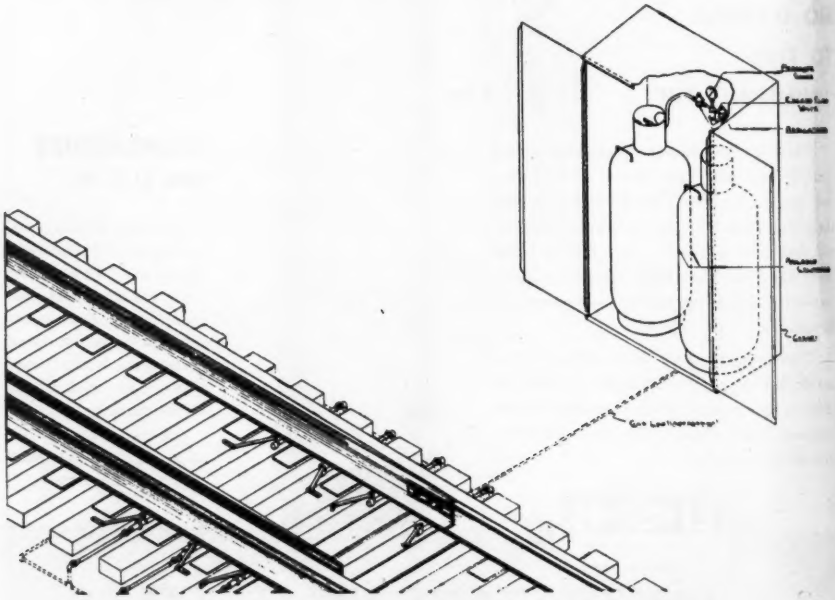
set between the two regulators so that the regulating equipment will function the same as an automatic manifold, evacuating one cylinder before starting to draw upon the second one.

Because of the features of any manifold operating on the pressure differential principle, both cylinders will be drawn upon if the demand or extremely cold weather causes a condition which is beyond the vaporizing capacity of one cylinder. When this condition ceases to exist the system automatically returns to drawing only from the high pressure side. By increasing the number of cylinders and using regulating equipment of greater capacity, a single gas installation can be made to supply gas for several switch heating installations.

Is the Phillips switch heater practical? The best answer to this question is to consult the list of users, and from among them I take the Boston & Maine Railroad which has chosen to protect both portals of the Hossac tunnel in Massachusetts with them.

This tunnel is 5 miles long, and is the very life-line of the railroad, being its most direct connection with the west. The company has available plenty of cheap electric current, for the tunnel is complete-



Schematic illustration of a complete propane switch heater installation.

NEW GRAYSON UNITROL "A"

advanced features... 1 ... safer lighting

During pilot lighting operations,
gas cannot flow to
main burner.

GRAYSON
HEAT CONTROL, LTD.
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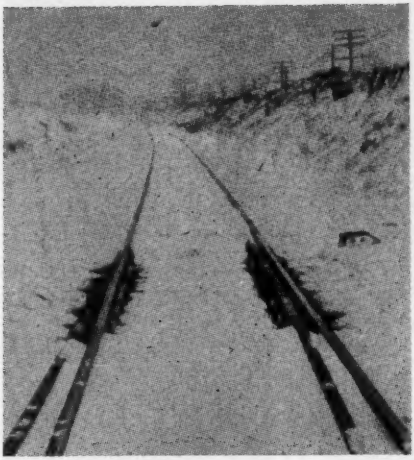


A typical scene at a propane-heated railroad switch.

ly electrified, yet they have chosen propane heated switch heaters.

Not only could a delay of trains passing through the tunnel demoralize the operation of their Fitchburg division; it could cause much passenger discomfort or even a catastrophe.

The heaters have now been in successful operation for a considerable period of time, and the railroad employes who have to do with them are quite extravagant in their praise.

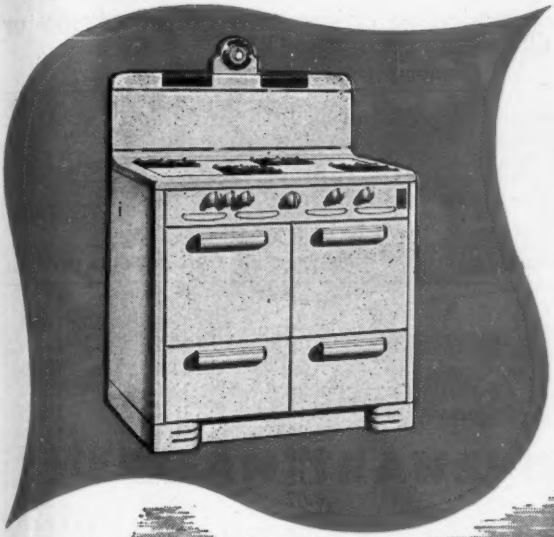
Other key point installations are being considered by this railroad on their system. They experimented with propane switch heaters several years before making the Hoosac tunnel installations.

Cost of Operation. What does it cost to operate propane switch heaters? The varying factors of temperature, gas pressures, and propane prices make it impossible to give a definite answer to this question, but approximate figures can be given. Taking 10 pounds as the normal operating pressure, 200 pounds of propane will operate eight burners (the number installed beneath a single switch) for 80 to 90 hours. Switch heaters are operated only when storm or weather conditions require, thus it is anybody's guess what the seasonal operating cost may be. Based on observation by Phillips engineers, Table 1 has been prepared, giving the approximate hourly operating cost.

Possibilities for Profits. The field of heating switches with B-P Gases is virtually untouched, and there are hundreds of thousands of switches in the United States which require heating at times. Based on observation in northern latitudes it is entirely conceivable that each one of these switches could require 1600 pounds of propane or more in a season.

Let's be ultra-conservative and figure on the fuel requirements of only 10,000 switches. This could easily be 16,000,000 pounds of propane per year. For those of you who prefer your figures in gallons instead of pounds, the railroads can immediately use at least 3,773,608 gallons of propane per year for switch heating, alone! You know what your percentage of profit on propane is.

From an industry standpoint we stand to benefit in net profits anywhere from $200,000 to $2,000,000 per year, depending upon the ardor with which we go after this business. The credit angle is far better than that which we would have to face in order to procure equivalent



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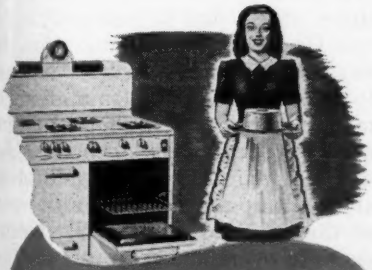

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Rockford, Illinois
Offices and Warehouses in Principal Distribution Centers

BUILT SPECIFICALLY FOR L.P. GAS

TABLE 1. ESTIMATED OPERATING COSTS AND CONSUMPTION OF RAILROAD SWITCH HEATERS

Consumption

Regulator Outlet Pressure	5 lbs.	10 lbs.	15 lbs.
Consumption in lbs. of Propane for one Switch (8 burners) per hour	1.78	2.222	2.66

Operating Cost Per Hour

Regulator Outlet Pressure	5 lbs.	10 lbs.	15 lbs.
Price of Propane in Cents per Lb.	Operating Cost in Cents per Hour		
6.00	10.68	13.33	15.96
5.75	10.23	12.77	15.29
5.50	9.79	12.22	14.63
5.25	9.34	11.66	13.96
5.00	8.90	11.11	13.30
4.75	8.45	10.55	12.63
4.50	8.01	10.00	11.97
4.25	7.56	9.44	11.30
4.00	7.12	8.88	10.64
3.75	6.67	8.33	9.97
3.50	6.23	7.77	9.31
3.25	5.78	7.22	8.64
3.00	5.34	6.66	7.98

profits from domestic installations, and the service headaches would be little or next to nothing, for railroads have their own maintenance and repair crews, and most generally insist on servicing all of the equipment on their lines.

Forget Your Own Ideas

A Warning to the Installation Man. If you go after this business you will, in all probability, have to make a demonstrating installation on approval. Insist on making it strictly in accordance with the manufacturer's recommendations in spite of your own ideas or those of railroad maintenance men who would be helpful. I caution you from bitter personal experience.

Several years ago a certain distributing organization was called upon to make trial installations for two New England railroads. The one installed according to directions, stuck, and is responsible for the Hoosac tunnel installation today. On the other job we listened to suggestions from maintenance men and tried a few short cuts and improvements of our own. This job was not satisfactory, didn't stick, and built up a prejudice on the part of the railroad which will require years to overcome. You can rest assured that the designers of the Phillips switch heaters tried all of the short cuts which may occur to you, and that they experimented with their heaters in all possible positions and locations. *Follow the directions explicitly, and you won't get into trouble.*

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Minimum Wear on Equipment
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Low Transportation Cost
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INSURANCE

What the Dealer Needs and How to Get it

By LOUIS H. COLLAR

Manager, Liquefied Petroleum Gas Insurance Underwriters, Kansas City, Mo.

PERHAPS no other group of businessmen have become more keenly aware of the value of insurance than those who are engaged in the sale and distribution of liquefied petroleum gas and the sale, installation and maintenance of appliances installed for the use of this gas for domestic and industrial purposes.

The lack of a suitable market for all coverages and the excessively high rates charged by the few companies which do write limited coverages have become a source of worry to the individual dealer as it is difficult to pass the cost of insurance to the consumer. They know, however, that they must have full and complete coverage if they are to survive in business.

While every dealer knows the value of insurance, few know just what form of coverages are necessary to the full and complete protection they desire. A dealer in liquefied petroleum gas, like many other businessmen, picks out an insurance agent upon whom he relies to provide him with the protection he desires.

To afford a dealer this protection, it is necessary for the agent to have an intimate knowledge of each and every operation of the dealer, the hazards arising out of such operation and manual classification applicable to such operation. If the agent does not possess this knowledge, the dealer finds himself without protection in the event that a particular operation is not described in the policy and a premium charge made for the same.

In a previous article, it was pointed out that the dealer should have seven separate and distinct forms of insurance protection. For the benefit of those who did not read the article, they are again enumerated:

(1) Comprehensive Public Liability.

(2) Automobile Bodily Injury and Property Damage Liability including Fire and/or Explosion resulting from Fire.

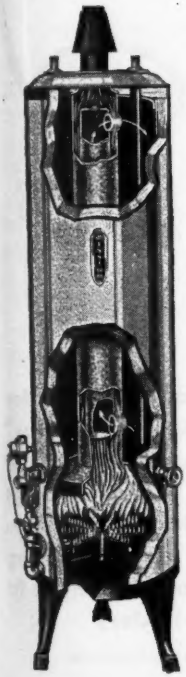
Insurance is a major problem in the liquefied petroleum gas industry and dealers will welcome another article upon this subject by Mr. Collar. His first one appeared in the March issue of Butane-Propane News.

Mr. Collar, with headquarters at the Continental Hotel, will hold "open house" for dealers who attend the Chicago convention of the National Butane-Propane Association, Sept. 23-25.

Of special interest to those who have wanted to place their insurance with local agents is the fact that hereafter this will be possible.—Editor.

MISSION ENGINEERED

More Hot Water Per Minute *At Less Cost*



The inner tank circulation feature★ of Mission Senior exposes over double the normal tank area to heat absorption. Ordinary heaters offer but 3½ sq. ft. of heating surface to direct heat action.

But with Mission Senior the full effect of the Bunsen Burner heat is absorbed by 8¼ sq. ft. of metal in direct contact with water (the combined surface area of the inner and outer tanks exposed to direct heat).

This plus value of 5 extra sq. ft. of heating surface in Mission Senior operates to the user's advantage every minute burner is on.

★*An exclusive feature with Mission Water Heaters.*

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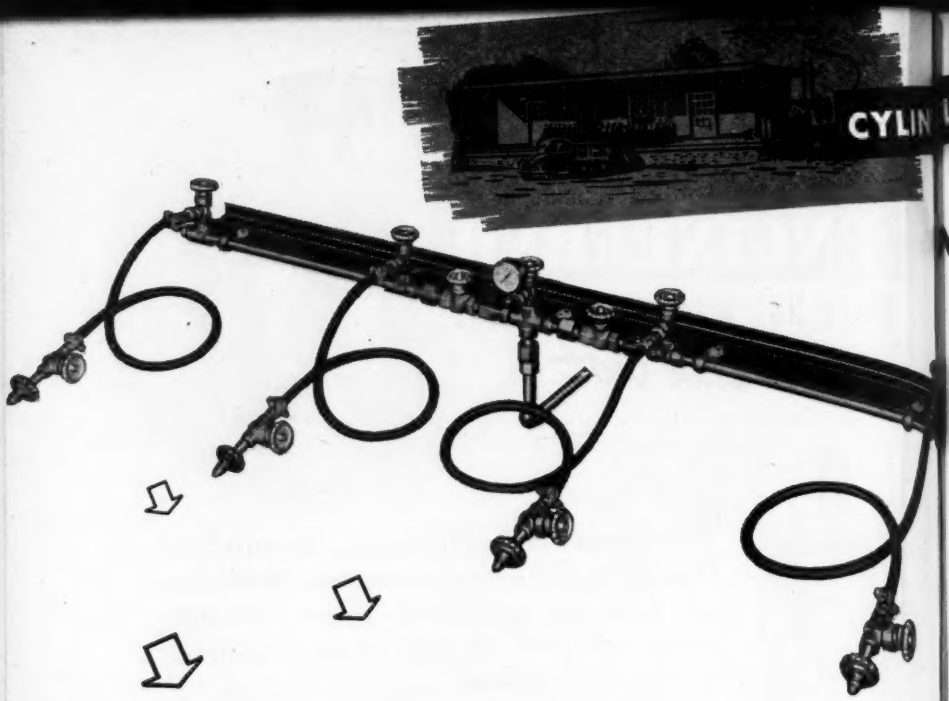

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Individual Shut-Off Valves* at each cylinder station on manifold • Master Shut-Off Valves* on each branch • Accurate, easy-to-read inlet Pressure Gauge • Heavy brass fittings • Permanent joints silver-soldered • Heavy-duty I beam "backbone" • Long-wearing loading hose assemblies • Connections to fit all types of LP Gas Cylinders

*Utilize RegO's proven packless diaphragm construction for leakproof performance

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For Speed... Safety... and Long Life Specify RegO Charging Manifold For Your Cylinder Loading!

Pioneer and Leader in the Design and Manufacture of

LING...FASTER...SAFER...AND AT LOWER COST!

with

New REGO CHARGING MANIFOLDS

Here's improved performance which is the result of many years of practical experience in the design and manufacture of custom-made manifolds for installations all over the country.

Now you can get manifold performance that combines operating and construction features which provide *maximum safety...faster rate of filling... and long, trouble-free operation!*

RegO Manifolds for charging LP Gas Cylinders are available in a range of sizes to meet virtually every requirement, and are designed so that additional cylinder stations may be added easily at a later date as required.

You can select from a complete series of ten cylinder connections the exact types to fit the styles of cylinders filled at your loading plant.

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3. USES NO FLOOR SPACE . . . it's suspended
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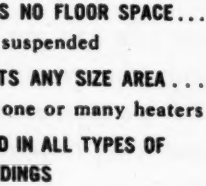
Gas unit heaters



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(5) Fire and extended coverage upon buildings and contents.

(6) Bonds as may be required by the Statutes of the several states.

(7) Life Insurance for individual owners, partners and executive officers of the corporation.

The dealer knows that he must have Bodily Injury and Property Damage Liability with Fire and Explosion upon his truck and tank equipment; he knows that he is compelled by law to carry Workmen's Compensation for the protection of his employes. He also knows that he must carry adequate fire insurance and extended coverage upon his buildings and contents for the protection of the mortgagee as well as for his own protection. In many states by statute, the dealer is required to file a bond as a condition precedent to his engaging in the sale, distribution of gas and the installation and maintenance of appliances.

Degree of Coverage Unknown

As a general rule, while being familiar with all the hazards arising out of his operations, the dealer is not fully acquainted with the various public liability coverages and unable to determine for himself whether he has purchased full and complete protection as against all the hazards arising out of the sale and distribution of the gas. Few dealers know or take the occasion to ascertain what manual classification covers each operation.

The dealer's liability begins the moment the gas is delivered to him either in railroad tank cars or by over-the-road tank truck and does not cease until the gas is safely consumed by the customer.

The various operations in connection with the handling of the gas may fall within the provisions of the Manufacturers' and Contractors', Owners', Landlords' and Tenants', Product, Contractual or Owners' or Contractors' Protective liability manuals.

Until a very short time ago, the LP-Gas dealer was unable to obtain coverage for all hazards arising out of the various operations, and he was most fortunate, indeed, if he was able to obtain coverage for one or two of the operations, and the rate of premium in many instances appeared to be grossly exorbitant.

Since the appearance of the article in the March issue, many dealers have made inquiry regarding the Comprehensive General Liability Policy and have expressed a desire to be informed how it is written and the scope of the coverage afforded. This form of policy is not new in the insurance field, but it is the first time that this form of policy has been used to cover the public liability of a liquefied petroleum gas dealer.

A few months ago, the Keystone Mutual Casualty Co., of Pittsburgh, Pa., a financially stable and well-managed company, issuing non-assessable policies, introduced to the industry through the Liquefied Petroleum Gas Insurance Underwriters, located at 1104 Insurance Ex-

change Bldg., Kansas City, Mo., its Comprehensive General Liability Policy which is designed to cover all known and unknown hazards in connection with the sale and distribution of liquefied petroleum gas. Instead of several policies, each covering one classification of risks as was formerly the practice, all classifications are now covered in one policy by the simple expediency of listing each classification of risks in the Schedule of Operations Endorsement attached to the policy.

By this method of underwriting, the company uses the same policy form for a dealer whose operations may fall within the classification of four or five manuals, as well as for one whose operations fall within a classification of one manual.

Secure Application Form

In order that the dealer may obtain full and complete coverage, it is most advisable for the dealer to obtain from his agent the application form especially designed by the Keystone Mutual Casualty Co. for underwriting liquefied petroleum gas risks. The dealer, by completing the application form in detail, will enable the company to determine all known hazards which may arise from the various operations and properly classify them.

Failure to appraise the company of all known hazards in connection with the dealer's operations will result in coverage only for such hazards as are disclosed to the company. Unknown hazards are also covered by the policy and a premium charge for such extended coverage is 1% of the total premium. The dealer should consult with an agent who has made a specialty of LP-Gas risks, for by doing so, he can then be sure that all his operations are properly covered.

What Policy Excludes

The policy does, however, contain various exclusions on operations which do not fall within the classification of risks covered by the liability manuals, such as liability assumed by the dealer under any contract or agreement not defined in the policy; liability arising out of the ownership, operation or use of automobiles away from the premises owned, rented or controlled by the dealer; liability arising out of bodily injury, sickness, disease or death of any of the dealer's employes; any obligation for which the dealer or his insurer may be liable for under any Workmen's Compensation Law; water or steam damage caused by rain or snow as result of defective roofs, leaders, etc. However, protection as against the hazards excluded from the Comprehensive General Liability policy can be obtained by consulting with his agent.

The policy is written with an advance premium computed by the application of the company's established rate to the estimated gross sales or payroll or both as provided by the manual provisions applicable to the classification of risks covered, advance premium being payable at the effective date of the policy. The premium is paid upon a monthly reporting basis, the dealer furnishing the company with a monthly report of the gross

MORE WOMEN COOK ON

Magic Chef

THAN ON ANY OTHER RANGE

★ 2 to 1 PREFERENCE FOR *Magic Chef*

TO LP-GAS DEALERS THIS MEANS....

The easiest range of all to sell. A range that enjoys a 2 to 1 consumer preference. A range backed by 26 years of the strongest national advertising in the gas range industry. A range which has consistently been the leader in the LP-Gas field. We repeat, Mr. Dealer —Magic Chef is the easiest range of all to sell.

AMERICAN STOVE COMPANY • 4301 Perkins Ave., Cleveland 3, Ohio

New York • Atlanta • Philadelphia • Chicago • Cleveland • St. Louis • Los Angeles

The EASIEST *Range of all* TO SELL!

sales and/or the payroll or both according to the classification of risks covered by the policy.

The sale of LP-Gas is reported in number of gallons sold and sale price per gallon; sale of appliances are reported in gross sales and installation and maintenance reported upon a payroll basis. For coverage for unknown hazards, 1% is added to the monthly earned premium. Risks where the dealer is engaged in one operation which falls within one manual classification, such as sale and delivery of bottled gas only, may be written at a specified annual premium.

Industry Record Is the Guide

It has been the consensus of opinion of the majority of dealers that the rates of premium charged by some insurance companies for this classification of risks are excessively high, but the industry must realize that the rate of premium for every classification of coverage is made by the industry, itself, rates on every classification being predicated upon loss and expense.

During the infancy of the industry, insurance companies as a whole would not write this class of business. The companies which did write this class of risks had bad loss experience due to the fact that the volume of premium was small and the spread inadequate. Such companies were faced with two alternatives, one to raise the rate of premium to a point where an underwriting profit was indicated or to refuse to write any risk in connection with the sale and distribution of liquefied petroleum gas. Those companies which continue to write certain portions of the risk charge high premium rates and will only accept the more preferred risks.

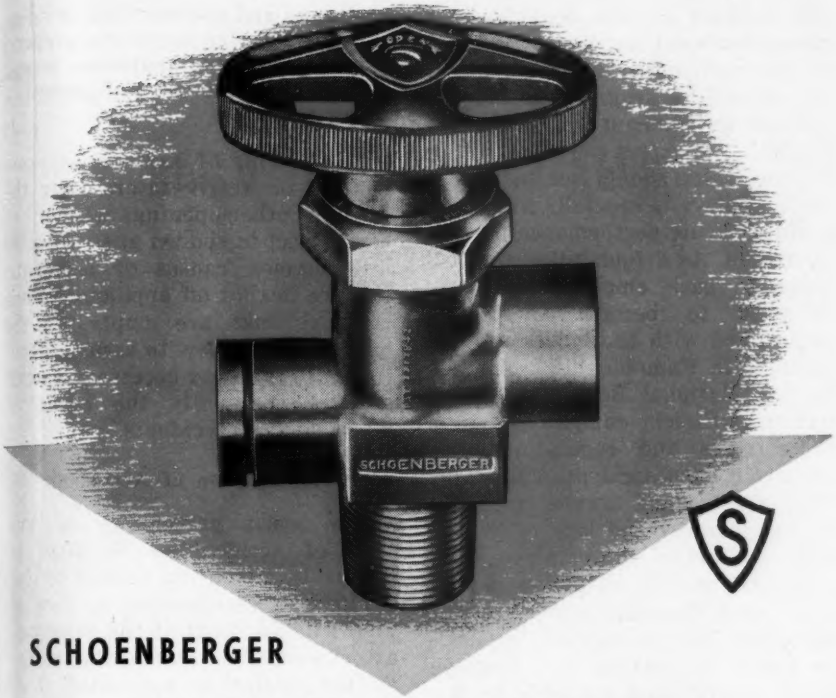
A survey of the industry as a whole indicates that in recent years, appliances, tanks, piping, connections and valves have been perfected to such an extent that liquefied petroleum gas may now be used for domestic and industrial purposes with comparative safety. The use of the gas in rural districts is slowly but surely becoming universal.

With these facts in mind and anticipating a very large volume of premium with the proper spread, the Keystone Mutual Casualty Co. has promulgated such rates as the company believes will produce an underwriting profit. However, no assurance is given as to the continuation of the present rate structure; this will be governed solely by loss experience.

The industry, itself, will control the rates charged. If the loss experience proves the present rates are too low, an increase will be inevitable. By the same token, if the experience is good, the existing rate structure will be maintained or possibly reduced.

Inasmuch as rates are governed by losses, and high accidental frequency always results in bad loss experience, the industry must become safety conscious. The existance of a state of mind is not sufficient. The industry must adopt and maintain a definite and workable safety program.

The hazards in connection with



SCHOENBERGER

DIAPHRAM PACKLESS CYLINDER VALVES

OFFER EXCLUSIVE AND IMPORTANT ADVANTAGES

The patented pressure equalizer prevents sticking or "checking shut" under any operating condition. Extra heavy construction and non-corrosive internal parts insure longest life. Larger seat opening means 30% faster cylinder charging, with consequent reduction in operating cost. The Schoenberger Valve definitely solves the difficulties experienced with conventional valves.

Listed under Reexamination Service of Underwriters' Laboratories, Inc.

Write for Bulletin P.B. 11

We Specialize in Valves and Fittings for the L. P. Gas Industry

THE W. J. SCHOENBERGER CO.

8810 HARVARD AVENUE • CLEVELAND 5, OHIO

the conduct of one dealer's business are almost identical with those of his competitor, and the setting up of such a program should not present any difficult problem to the dealer.

The dealer should see to it that each employe is specially fitted and trained in the performance of each operation. As a foundation for this training, each employe should be required to become thoroughly acquainted with the rules and regulations in Pamphlet 58, published by the National Board of Underwriters. Strict compliance with these rules and regulations will greatly reduce accidents caused by work failure and accidents caused by carelessness and lack of knowledge on part of the employe.

Safety meetings of employes, with open discussions of accident causation and prevention, generally result in making the employe more careful and valuable to his employer. Such discussions of accident prevention have very often resulted in improvement in the design and manufacture of appliances. The employe who has to correct and overcome appliance failure, oftentimes, discovers that certain changes in design would overcome failures overlooked by laboratories.

As result of the many improvements in the design of appliances, the accidental frequency caused by appliance failure has been reduced to a point that this factor no longer is regarded as a major hazard.

The major hazard now seems to be the human element. Faulty installations, mal-position of appliances and customer lack of care and knowledge as to the proper method of using appliances seem to be the chief cause of present-day accidents.

The placing of cook stoves, space heaters or refrigerators near the doors or other openings where they are subject to sudden gusts of wind are common causes of accidents. Failure to shut off appliances when storage tanks are empty, or the pressure is too low to assure a continued proper and necessary flow of gas, is frequently the cause of many serious accidents.

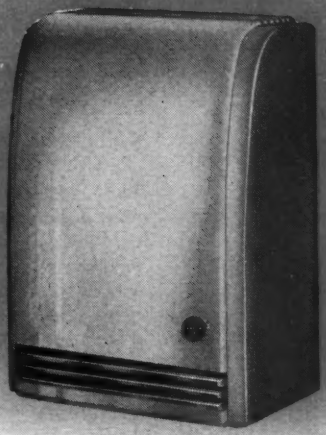
Classification of Accidents

The great percentage of this type of accident is classified as avoidable. Accidents caused by the negligence, carelessness or lack of knowledge on part of the consumer are classified as unavoidable so far as the dealer is concerned. But, where the dealer fails to maintain an adequate consumer educational program, such accidents should be classified as avoidable.

The maintenance of a proper safety program, coupled with proper instruction to the consumer by the employe in charge of installation and maintenance as to the proper method of using appliances, would do much to greatly reduce, if not wholly eliminate such cause. It is interesting to note that dealers who maintain efficient and workable safety programs and adequate consumer educational programs have conducted their business for years without a serious accident.

The maintenance of a definite

LET BEAUTY BUILD YOUR HEATER SALES



New RHEEM gas console heater

Women customers will like the simple gracious lines of this Rheem gas console heater. Its handsome antique finish brings new beauty to any interior. Tall functional design increases heat circulation and requires less floor space. Narrow base of heater permits installation on strip between wall and rug.

Sales are easy because the low price and economical operation fit any budget. Approved by American Gas Association, whether vented or unvented. Available in three popular sizes: 25,000; 35,000; 50,000 B.T.U. Get full information today. Write Rheem, 570 Lexington Avenue, New York 22, New York.

RHEEM ... *making houses into homes*

and workable safety program will pay the dealer dividends, his employes will become more efficient and careful workmen, cost of installation of systems will be greatly reduced, his customer becomes a more satisfied user of liquefied petroleum gas, his business will be publicized by a pleased customer, and he will be benefited by a continuation of the present premium rate structure.

Check on Your Policies

Every dealer in liquefied petoleum gas should, for his own protection, carefully read and examine his insurance policies to ascertain if the policies afford him full and complete protection. It would be well to make that a today's must; tomorrow may be too late. If he is unable to determine the extent or scope of the coverage of his policies, he should consult an insurance agent who specializes in liquefied petroleum gas risks. By doing so, he may save himself from a severe loss which he can ill afford, or possible financial ruin.

The Liquefied Petroleum Gas Insurance Underwriters have made a special study of this particular type of coverage and are familiar with the insurance needs of all dealers. Inquiries or questions as to the dealers' coverages may be referred to them as they are in a position to give immediate service.

Any LP-Gas dealer who has any preference as to agents may request his agent to contact this company. If there is any question as to present coverage, it is suggested that present insurance policies be forwarded to this company for audit, check and inspection. A detailed report will be given without delay. The address of the Liquefied Petroleum Gas Insurance Underwriters is 1104 Insurance Exchange Bldg., Kansas City, Mo.

LPGA Has Insignia Cut For Members to Use

There is now available a member identification cut of the official Liquefied Petroleum Gas Association insignia and symbol, which appears on the Association letterhead, for use on member letterheads, house organs, and other circulatory matters. This cut will be furnished, on order, to members at a cost of $2 for the period of their membership.

Use of this mark will identify a user, both in and out of the industry, as one who subscribes to the ideals of LPGA, and who is doing his share in the promotion of the interests of the industry and in the solution of industry problems.

Members are urged to use this emblem and give it as wide a circulation as possible toward the end of fostering mutual cooperation among LPGA members. Those desiring cuts should address Howard D. White, executive vice president, Liquefied Petroleum Gas Association, Inc., 11 So. LaSalle St., Chicago 3.

Planning

IS THE SOURCE OF **BASO** PERFORMANCE

The BASO Automatic Pilot is the result of constant, careful planning. Our staff of chemists, physicists and engineers brings the accumulated experience of decades of specialized study to these frequent planning sessions. From such a scientific meeting of minds comes a constantly improved *BASO Automatic Pilot* . . . the simplest, most efficient safety device modern science can devise . . . to guard your gas-fired equipment against all types of hazardous pilot flame conditions.

Send for Bulletin SB-300—"Application of BASO'S"

A.G.A. APPROVED

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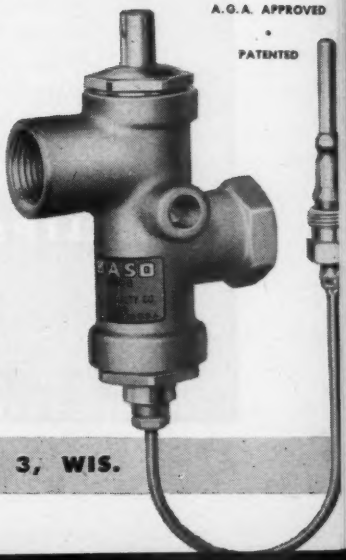
PATENTED



MILWAUKEE GAS SPECIALTY CO., MILWAUKEE 3, WIS.

NOT ONLY KNOW HOW

• • • BUT A SYMBOL OF

"CARE-HOW"

Phillips BUTANE PROPANE

Phillips Petroleum Company, the World's Largest Marketer of Liquefied Petroleum Gas, adheres to the principle of "care-how" cooperation that extends from the blueprint throughout the "in business" stage.

Phillips cooperation includes:

A practical survey and detailed plans for your bulk plant and necessary equipment.

A dependable supply of the highest quality product.

Distribution and marketing helps based on 19 years of successful know-how.

The first step in obtaining Phillips "care-how" is to contact the Branch Office nearest you.

PHILLIPS PETROLEUM COMPANY

Philgas Division

BARTLESVILLE, OKLAHOMA

Branch Offices in NEW YORK, CHICAGO, PHILADELPHIA, MILWAUKEE, DETROIT, ST. LOUIS, SHREVEPORT, AMARILLO, HIBBING, DENVER

THE WORLD'S LARGEST MARKETER OF LIQUEFIED PETROLEUM GAS

QUIZ — Competitive Fuels — Coal

• *This department is a monthly feature to stimulate thought and to give operators basic industry facts. Clip out for your notebook or file in a standard, 3-ring, loose-leaf binder. Sources of information: The Bottled Gas Manual, Handbook Butane-Propane Gases.*

Questions	Answers
1 Can LP-Gas compete with coal?	LP-Gas, selling at prices at, or about, the price of city gas, can compete with coal for a good percentage of the customers as is evidenced by the load developed by the utility companies.
2 What is the load easiest to get in cheap coal districts?	Cooking and water heating.
3 What is the Btu content of coal?	It varies from 12,000 to 16,000 Btu per pound, depending upon variety and quality.
4 What is an average efficiency for home kitchen use of coal for cooking and water heating?	About 9% of the heat in a pound of coal goes into the actual cooking or water heating operation for intermittent operation as is found in the normal home.

5 **What is a rough equivalent between coal and propane for kitchen use?**	It requires about 9.5 pounds of coal to accomplish what can be done with 1 pound of propane.
6 **How can LP-Gas compete with coal for restaurant business?**	Fuel cost is overbalanced by saving in labor, space and the added convenience of gas fuel. In addition, when gas is installed for the main kitchen uses, it is also available for coffee urns, steam tables, toasters, pressure cookers, ovens and other appliances that save time and allow for better and quicker preparation of food.
7 **Is LP-Gas competitive with coal for heating?**	In the South, where the days are warm and the evenings and mornings cold, LP-Gas, due to its speed in heating up a dwelling and the fact that it can be turned off as soon as the sun comes out, will prove more satisfactory and economical than coal for heating.
8 **Why is LP-Gas going to supplant coal in the kitchen?**	National advertising of the modern kitchen has created a market for gas appliances, and liquefied petroleum gas is the answer for the rural user.
9 **What is a fair appraisel of the incidental costs of using coal in the kitchen such as ash removal, flue maintenance, appliance maintenance, cleaning and lost time?**	Three dollars per ton over the laid-down price.
10 **What is the greatest asset of LP-Gas over coal for kitchen use?**	It is flexible and convenient, modern and clean. In the end, it costs little or no more than coal.

● Competitive Fuels ● Oil, Electricity ● Gas Lighting ● Space Heating ● Tools for Your Kit.

K-10
SERIES

UNSURPASSED ELECTRO-MAGNETIC LEVER VALVES

FOR CONTROLLING air, water, gas, steam, light and heavy oils, and refrigerants, etc. Suitable for pressures up to 1,000 pounds and temperatures up to 400° F.

Internal valve assembly can be removed for cleaning and inspection if necessary. Two-wire—A.C. or D.C.—current failure—packless construction—bronze body—stainless steel and bronze internal parts—soft seats available.

SIX TIMES THE POWER of ordinary solenoid valves. This feature assures high seating pressure and overcomes the effect of viscous fluids, such as heavy fuel oil. Adequate power of the solenoid insures positive operation. Available in normally closed or open types.

FOR COMPLETE SPECIFICATIONS on temperature, pressure and flow controls write for new 1946 Catalog 52C. 8-1

GENERAL CONTROLS
801 ALLEN AVENUE GLENDALE 1, CALIF.

FACTORY BRANCHES: Philadelphia, Atlanta, Boston, Chicago, Dallas, Kansas City, New York, Denver, Cleveland, Pittsburgh, Houston, Seattle, San Francisco. Distributors in Principal Cities.

New Products

Temperature Control

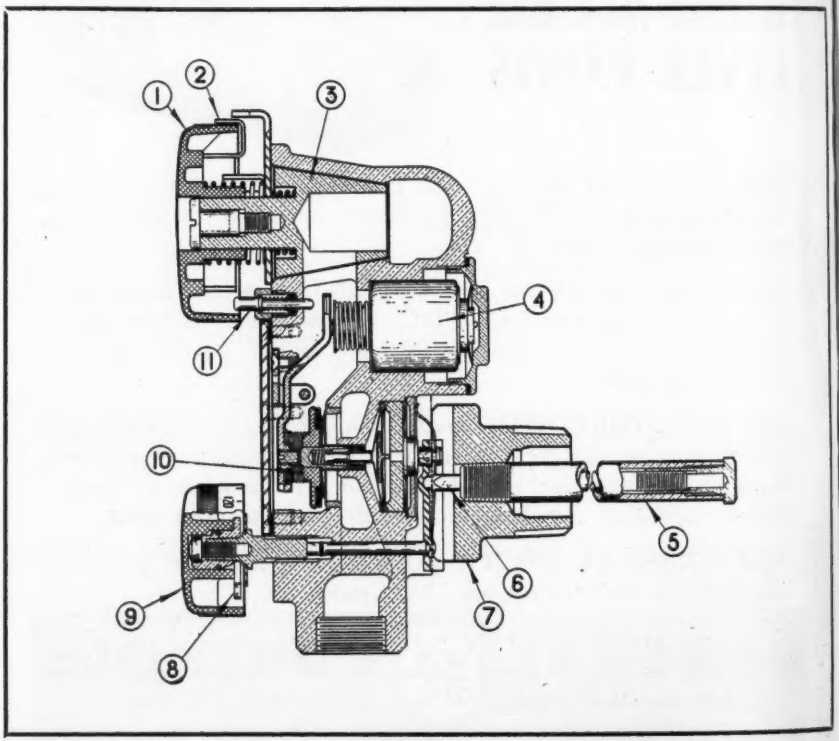
Grayson Heat Control, Ltd., Lynwood, Calif.

Model: Unitrol "A".

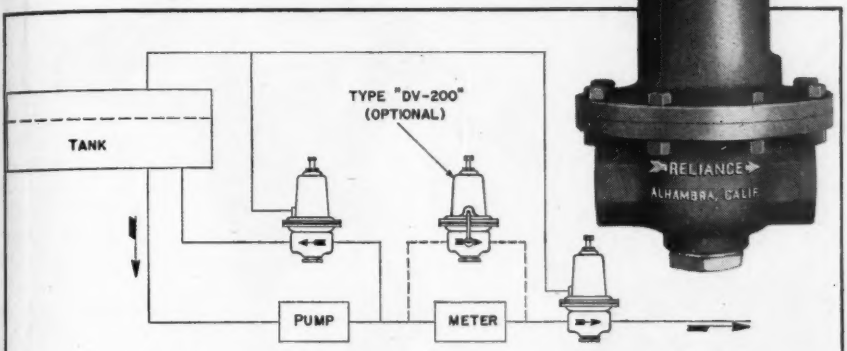
Description: The new "Unitrol," Model "A" is a compact safety and temperature control for water heaters of 20 to 75 gals. capacity. It is especially adaptable to modern types of water heaters of concealed or semi-concealed construction. It was designed as a water heater control that would be complete in every respect, yet compact. A unit was desired that would have greater capacity, the result being achieved by streamlining and not by increasing its bulk.

The Unitrol "A" can be used with all gases, controls water temperature between 40° F. and 160° F., provides 100% safety shut-off and safe lighting, filters gas ahead of the pilot valve, incorporates the "A", "B", and "C" Valves into one unit, provides front accessibility to all adjustments, and facilitates installation and service.

In addition to the features of the old style Unitrol the new Unitrol "A" includes a pilot gas filter of the approved U.G.I. type, 100% safety shut-off in any position of the gas cock,



HERE ARE TWO VALVES TO PROTECT YOUR EQUIPMENT



Typical Installation Diagram for RV-200 and DV-200 Valves.

RELIEF VALVE

RV-200 and RV-201 are specified for general service in relief of pressures—either liquid or gas. RV-200 has metal seat disc and diaphragm, RV-201 has composition seat disc and diaphragm.

DIFFERENTIAL VALVE

DV-200 and DV-201 are used extensively in refinery, gasoline plants, and oil line installations to protect meters and pumps and as back pressure valves to minimize vapor lock in meters.

Both of the above types of valves are diaphragm actuated with an easy spring adjustment up to 225 P.S.I. outlet pressure. They come in a full range of standard sizes, ¾″ to 2″, and are completely specified in Reliance Bulletin No. 49. Write for your copy today!

RELIANCE REGULATORS

RELIANCE REGULATOR CORPORATION
1900 MERIDIAN AVENUE ALHAMBRA CALIFORNIA

AMERICAN METERS

When Ability Counts
you can depend upon
UNIVERSAL
"L-P" GAS RANGES
For three quarters of a century Cribben and Sexton have been making America's finest ranges. This experience, skill and craftsmanship pays off today... for the new Universal "L-P" gas range is the proudest member of a long line of champions.
You can display the new Universal "L-P" gas range with pride, and sell it with confidence—for in looks, performance and dependability it's the tops.
L-P GAS
The Preferred Cooking Fuel
L-P UNIVERSAL
The Preferred Gas Range
GAS
Still the UNIVERSAL Selection of Cooking Perfection
CRIBBEN & SEXTON
UNIVERSAL Gas RANGE
700 N. SACRAMENTO BLVD. CHICAGO 12, ILLINOIS

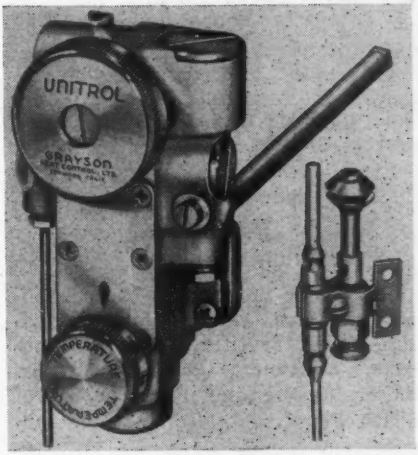
increased capacity to 240,000 Btu at a pressure drop of 1.5" water column when using LP-Gas, two-piece construction, and accessibility to all adjustments from the front.

The temperature sensitive element is the copper-invar tube (5) and rod (6). This assembly is attached to the tank adapter (7) and is separable from the valve body. Such two-piece construction makes inter-changeability a simple matter and there is no necessity for draining the tank. The two-piece construction also facilitates original installation in that it is not necessary to rotate the valve body when screwing the shank (7) into the tank. Furthermore, there is no possibility of water entering the gas line due to thermal element failure.

The safety pilot feature of the Unitrol utilizes the well known and proven thermocouple principle.

The gas cock (3) is operated by the larger (1) of the two dials, the smaller being the temperature setting dial (9). When the gas cock (3) is set in the "Off" position no gas can flow through the valve. Rotating the dial (1) 90° in a clockwise direction will place it in the "Pilot" position. Gas will not flow to the pilot burner until the dial (1) is depressed manually. When the dial (1) is depressed, a cam on the dial (1) is pushed against a pin (11) which in turn opens the pilot valve, main gas valve (10), and simultaneously sets the keeper against the electromagnet (4). The cam is in line with the pin (11) only in the "Pilot" position.

After the pilot burner has been burning for approximately 30 seconds, the dial (1) may be released and the pilot will continue to burn because the pilot valve is held open thermo-magnetically. No gas can flow to the main burner, although the main gas valve (10) is opened, because the gas cock (3) is only allowing gas to reach



the pilot line. This is known as safe lighting. If the dial (1) is left in the "Pilot" position and the pilot burner is extinguished, 100% shut-off is obtained because the pilot gas is under thermo-magnetic control.

If the dial (1) is now turned to the "On" position, after the valve is set thermo-magnetically, the main burner will come on provided that the temperature setting is above the temperature of the water. In the "On" position, the gas cock (3) allows gas to flow through the main valve (10) as well as the pilot valve, both of which are held open thermo-magnetically. Therefore, in the event of pilot failure, both valves will close and 100% shut-off is obtained in this position also.

The filter is located at the top of the valve body on the right side when viewing it from the front. The pilot gas rate is adjusted by the metering screw on the right side of the valve below the filter. The gas rate flow to the main burner is adjusted by moving the slide "On" stop (2), on the dial (1) of the gas cock (3), to the stop position after setting the dial

(1) for the proper gas rate. The slide (2) is held in place by a screw in the outer periphery of the dial.

Calibration is accomplished by removing the temperature dial (9) from the shaft and changing the position of the calibration disc (8). Settings, calibration, and adjustments are easily made from the front of the valve.

Pump Bulletin

R. Stanley Smith, who has contributed numerous articles to this magazine under the title of "Pump Problems," announces that his company, the Smith Precision Products Co., of South Pasadena, Calif., has recently published a new eight-page bulletin No. K-64, describing the various models of Smith butane-propane pumps which are manufactured by his company.

Copies are now available for distribution upon request.

Phillips Petroleum Co. Opens Two New District Offices

Frank Phillips, board chairman, and K. S. Adams, president of Phillips Petroleum Co., announce the opening of new district offices of Philgas wholesale division, Chemical Products department in Kansas City, Mo. and Atlanta, Ga. Increased use of Phillips propane and butane in the areas involved and a desire to work more closely with distributors, prompted the opening of the new territory offices.

The Kansas City office, located in the Fluor building, is under the supervision of H. C. Dickinson, district manager for the territory embracing major portions of Kansas and Nebraska and western Missouri. The Atlanta office, in the Candler building, is under the direction of A. R. Padgett, acting district manager of the territory which includes Alabama, Georgia, South Carolina, and Florida.

With such displays as this "Magic Chef" gas range exhibit, home economists, teachers and household editors saw and heard the sales story of the gas industry at the American Home Economics Convention held in Cleveland, June 24-27. More than 3500 attended this show and visited the 170-odd exhibits, which included booths by Magic Chef, American Gas Association and Servel.

Plumbers FURNACE

◀ WIDE BASE

◀ NON-CLOGGING GRID

Here is a furnace which becomes a real plumber's pet because it performs its function exceedingly well and never gives him any trouble. It has a wide base which prevents upsetting, a non-clogging grid which keeps lead spillage from affecting the burner or flame. It weighs only 9¼ lbs., requires no pumping of pressure, no lost time generating, emits no smoke or soot. It operates on butane, propane, natural or manufactured gas. Handy as a pocket in a shirt and gives you a lot for your money.

RANSOME COMPANY

Designing and Constructing Engineers

4030 HOLLIS STREET · EMERYVILLE, CALIFORNIA

Ransome

CURRENT READING

• Reviews of new books, pamphlets and articles published in recent magazines of interest to technicians and executives in the liquefied petroleum gas industry. Those interested in reading any complete article or book should write to the publications named.

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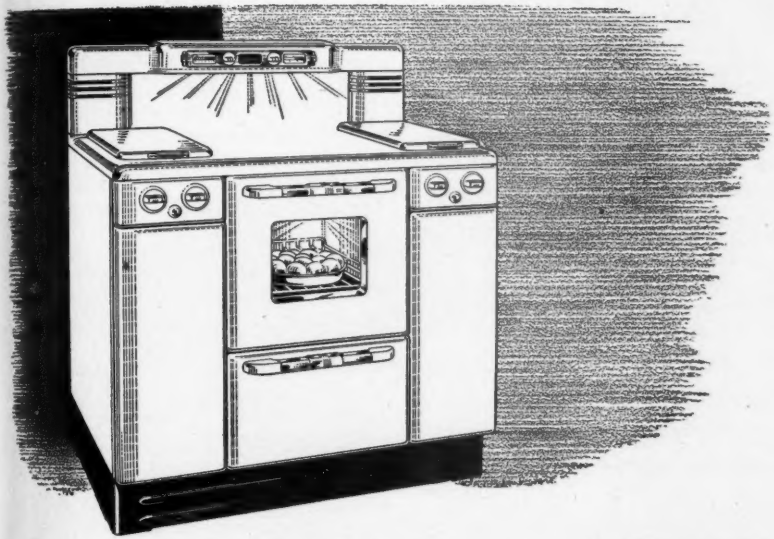
How Cathodic Protection Prevents Pipe and Tank Corrosion. "Power Plant Engineering," June, 1946, pp. 83-85, 90. Theory of cathodic protection; Advantages; The cathodic protection battery; Preliminary steps to installation; Conducting a current survey for a pipe line; Test points; Pipe-to-soil potential; Current required for protection; Ground beds; Current sources; Current density requirements for tanks; Effect of ice on corrosion; Record of protection system for a tank; Costs.

Assembly and Calibration of a Density Balance for Liquid Hydrocarbons, by A. F. Forziati, B. J. Mair and F. D. Rossini. **Research Paper RP 1685,** U. S. Bureau of Standards.

New Cycling Plant Conserves Gas; Produces 300,000 Gallons of Products Daily—A. L. Foster. "Oil and Gas Journal." June 1, 1946, pp. 61, 62, 75. Conservation of the entire raw products of the Sheridan condensate field, Colorado County, Texas, is the purpose and design of the Shell Oil Co., Inc., plant established there. The location is eighty miles west and 20 miles south of Houston. One of the undesirable features of most large oil and gas fields in the past has been the inevitable use of flares in which to burn excess gas which must be produced, also inevitable, with the oil or distillate. The Shell plant at Sheridan, like other modern plants of this general type, has eliminated waste by recovering all of the liquefiable products which is practicable, including propane for liquefied petroleum gas. It conserves the stripped gas and makes it do the work of bringing up more distillate, natural gasoline, and liquefied petroleum gas and returning it to the formation as a cycling system of operation. In its design the various products are separated and fractionated to the required commercial standard purity. Stripped gas is returned to five input wells arranged according to a preconceived pattern, under conditions mentioned in the article.

Separate Processing for Rich and Lean Gas, "Petroleum Refiner," May, 1946, pp. 106-108. Newest gasoline plant in the Los Angeles Basin is the addition to facilities of Wilmington Gasoline Co.'s plant at Long Beach. Directional drilling of wells to formations beneath the harbor has provided additional casinghead gas which has brought the total quantity of processible gas from the old plant's capacity of 28,000 thousand cubic feet to 43,000 thousand cubic feet per day. The new unit is what could be called a complete plant in itself, as absorption, distillation, and stabilizing is accomplished with new equipment. However, all of the gasoline manufactured in the older unit is blended with production from the new unit for stabiliza-

Why More and More Women insist on a TAPPAN L. P. Range



★ Its many famous feature "firsts" give them new freedom, far better meals with far less work.

★ TAPPAN'S streamlined beauty satisfies their longing for modern beauty in the kitchen.

★ TAPPAN'S continuous research, constant product improvement and trouble-free performance have built widespread confidence in the name TAPPAN.

P.S. TAPPAN'S a dealer's delight because of the rapid turnover, sound profits, minimum service requirements.

The **TAPPAN** *Stove Company*

Established 1881 • Mansfield, Ohio

tion, and all of the LPG vapors after condensation, are processed in a column to produce butane. Described and illustrated.

Condensate from Natural Gas Yields Motor Fuel Directly—G. G. Brown. "National Petroleum News," June 5, 1946, pp. R-436, 438. Condensate, the new liquid product being produced from natural gas in high-pressure recycling plants can yield a motor fuel suitable for sale directly to the ultimate consumer. It need not be sold as a blending agent. Condensate is secured in much the same manner as natural gasoline, but has a wider boiling range. Because of this it can be fractionated as desired to secure finished motor fuels of satisfactory volatility without blending. These motor fuels, either standard or premium grade, meet the new federal specifications and are competitive with fuels now sold in certain areas of the country. In addition, they are low in sulfur, free from gum, and have good lead susceptibility.

Electronics in the Petroleum Industry—V. G. Gabriel. "Petroleum Engineer," June, 1946, pp. 107, etc. Electronic devices play an important part in prospecting methods, refining, operation and research. Some of these applications are discussed.

Will Gas Turbines Power Our Cars of the Future?—A. T. Colwell, "National Petroleum News," June 12, 1946, pp. 38, 40. Conventional engines probably will prevail; fuel octane numbers to go up with lubricants tending toward heavy duty types.

Safe Practices for Hand Tools—D. Attaway. "Petroleum Engineer," April, 1946, pp. 55-58.

Technical Service Pays Its Way. "National Petroleum News," June 5, 1946, pp. R-403-407. Even in smaller refineries new functions are being found for the technical groups first organized as a liaison between professional engineers and the plant operating force. Data for this article was secured through studies made by NPN Technical Section's representatives, of seven refinery organizations.

Universal Chart Gives Speedy Answers to Problems in Fluid Flow—W. C. Woodman. "Power," May, 1946, pp. 75-77. Piping design depends on fluid nature and pipe interior surface. The charts shown speed cut-and-try solutions and facilitate selection of size commensurate with fluid pressure loss.

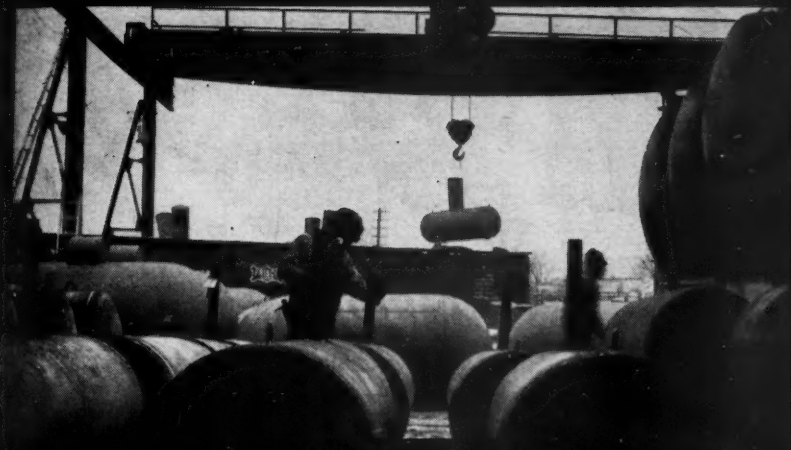
Pressure Vessels Made with Welded Nickel Alloy Linings—T. H. Menaugh. "Materials and Methods," May, 1946, pp. 1289-1292. Specialized welding methods are used to line tanks with special alloys that can withstand high temperatures and pressures as well as corrosive acids.

Basic Petroleum Chemistry for Refinery Employes—J. J. Stadherr. "Petroleum Refiner," June, 1946, pp. 131-133. Article 4—Changing the structure of petroleum molecules.

Selection and Application of Refinery Instruments—A. Krieg. "Petroleum Engineer," June, 1946, pp. 120, etc. Part 6—Installation.

Combating Corrosion—D. P. Thornton, Jr., "National Petroleum News," June 5, 1946, pp. R-450, etc. New techniques for protection of pipelines and buried structures presented before the convention of Corrosion Engineers Society.

The weight of Quality



McNamar LPG Systems are made with more than steel, energy, and skill. Into each vessel that takes shape at the McNamar Plant goes the pride of workmanship that has created nationwide confidence in McNamar products. Yes, QUALITY bears a good deal of weight, with you, with us, with everybody.

McNamar IS A NAME THAT STANDS FOR *Quality*

- Butane and Propane Domestic Systems
- Industrial and Storage Tanks
- Delivery and Transport Trucks

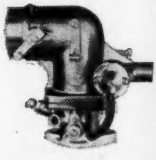
PROMPT DELIVERY ON ALL ORDERS

McNAMAR BOILER and TANK COMPANY

P. O. Box 868 Tulsa, Oklahoma

ALGAS BUTANE PROPANE CONVERSIONS

SET THE PACE EVERYWHERE!



Left: Algas Converter, Model 1500—Upper right: Multi-jet Mixer, Model H-1400 — Lower right: Multi-jet Mixer, Model V-1400.

Algas Butane-Propane conversions for internal combustion engines are especially adaptable to:

FARM TRACTORS
OILFIELD ENGINES
IRRIGATION SYSTEMS
TRUCKS

Dependent upon your needs, the Algas converter may be used with either of the mixers illustrated above, or in several other combinations now available.

Write for complete descriptive literature

1109 South Santa Fe Avenue
Los Angeles, California

AMERICAN LIQUID GAS CORPORATION
Los Angeles Chicago

Balances Load With Motor Fuel Sales

JAMES E. WHITE, owner and operator of the Dallas Butane Gas Co., says "most dealers don't know what they are missing by not selling motor fuel."

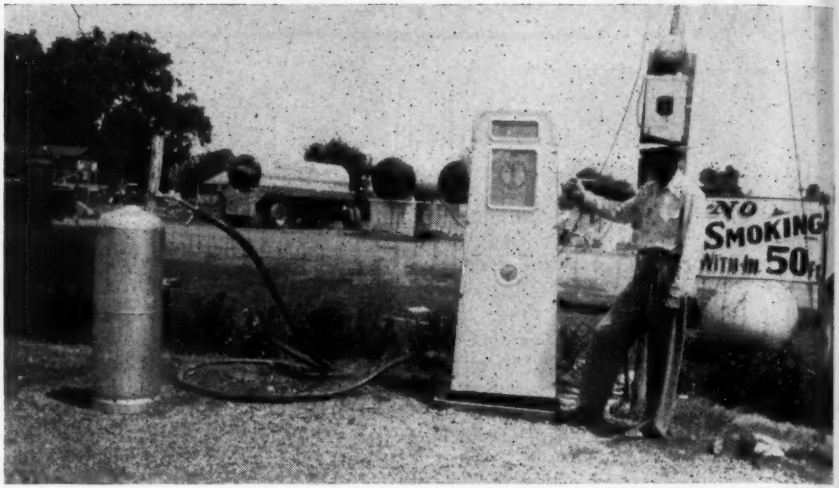
Mr. White should know because he has been an active and very successful dealer in the B-P Gas business since 1938. His place of business is located on the Fort Worth Pike, which runs between Dallas and Fort Worth, Texas. This wonderful location has helped make Mr. White one of the most widely known dealers in the state, but this, alone, does not account for his rapid and continued progress in the butane business.

His success is rather accounted for by a knowledge of what the public wants and his ability to give it to them. An example of this is his present desire to make the sale of motor fuel easier, safer and, consequently, more profitable.

This has been done by the purchase and installation of a modern and attractive fuel dispenser at his Dallas plant. The dispenser is one of the new Adel butane-propane liquid dispensing units manufactured by Adel Precision Products Co., Burbank, Calif. Sale and installation of the unit was made by Tank Sales and Equipment Co., of Dallas, distributors for this equipment.

Mr. White has sold butane for mo-

Fast, efficient service on the highway is made possible through use of this new Adel dispenser.



Jas. E. White filling cylinder from new dispenser. The Adel quick-action, hose nozzle is being used. Located a few feet off of main highway, this pump attracts business, speeds filling of bottles for cash-and-carry customers.

tor fuel for several years, using a less modern system.

Now his method of dispensing is as modern as that of a gas filling station and his attractive pumping unit definitely advertises his product.

When Mr. White first sold butane for motor fuel six years ago, he totaled around 100 gallons per month. Now he sells over 6000 gallons each month and expects to greatly increase this amount.

The main factor that is holding back butane and propane as motor fuel today, Mr. White believes, is the great lack of dispensing equipment in every part of the country. He states, "If they were scattered throughout the country, where people could see them and get at them, everybody would sell a lot of carburetion."

Mr. White says the dispenser is four times faster than the old method. Besides its advantage for filling truck and car tanks, it is a great deal more convenient for filling small bottles. This business, too, is greatly overlooked by many dealers, Mr. White believes. He has cultivated this type of sales, as well, and has worked his total gallonage up to around 4000 a month. These are mostly small bottles for trailers, cabins, etc.

With a good dispenser, this business is profitable, for the time consumed in filling is short and the price of fuel is higher than in the case of larger bottles.

Every dealer can profit by making carburetion installations, Mr. White affirms. This goes hand-in-hand with other sales and helps to build a steady gas load. He has definitely proven that one type of sale helps another and that new friends and new customers can be made through this type of operation.

At the present time Mr. White has four storage tanks of 30,000 gals. each,

with another of the same size scheduled to go in soon. Another addition to his plant will be a spur track where he can receive two tank cars of fuel for his storage.

Perhaps the best testimonial for butane as a motor fuel comes from Mr. White, himself, based on several years experience as a user of this fuel in his own car. He says, " I can't afford to run on anything but butane, myself. I've run my old Oldsmobile 200,000 miles on butane and it's still going strong."

New Carburetor Firm Enters Field

THE ANNOUNCEMENT by officials of the Air Borne Products Co., Los Angeles, that they are now devoting the entire production of their plant to the manufacture of liquefied petroleum gas carburetion equipment marks the entrance of another new company into the rapidly expanding field of butane-propane carburetion.

Although the development and testing of their new units has been going on for nearly two years, it has only been recently that they have been satisfied and ready to put the product into full production. This came, officials state, after exhaustive road tests and inspection and trial by numerous dealers made them sure that the unit was ready for general sales.

Officials of the company include Herbert V. Hills, president; Dave King, vice president in charge of sales; Nick Glaviano, vice president in charge of engineering; Charles Glaviano, treasurer and assistant in research and development; Jim Black, secretary. All of these men were active in the operation of the company

At the Air Borne plant. Left to right: James Black, Herbert V. Hills, Dave King, Charles and Nick Glaviano.

when it was engaged in the manufacture of aircraft products.

Early development of the new Air Borne unit was done mainly by Nick Glaviano, inventor and head of development and research. Other members of the firm have been active in the production and testing of the equipment.

Modern equipment and fast production methods are used throughout, officials state. The plant is now producing over 300 complete units each month, with a potential production of 1000 per month within one year.

In line with their policy to use modern equipment and maintain rigid tests of their product, the company has just installed a new Clayton dynomometer capable of handling 300 hp. This will be used for testing trucks equipped with Air Borne units.

A number of dealer outlets have already been established in the butane-propane industry, according to heads of the firm. It will be their policy, they state, to keep in close contact with their dealers and insist on maintaining as rigid an installation and inspection policy as possible.

Ensign's Chicago Factory Located in New Quarters

The Ensign Carburetor Co.'s Chicago branch factory will be located in a modern factory building recently acquired by the company and located at 2330 West 58th St.

At this new location, one block east of Western Ave., and a short distance directly east of the Chicago municipal airport, factory customers and accounts in the Midwest will be given

No. 916 Mileage Meter . . . available plain or luminous dial.

BUTANE MILEAGE METER for *More* ECONOMY

At last a meter that makes possible an increase in mileage on butane operated vehicles by at least 10%. Experience has proven that if a vehicle is driven correctly as to manifold pressures, it is impossible to lug the engine . . . thus producing better mileage and longer engine life. This meter pays for itself—Try one for Proof!

Electric and Carburetor Engineering Co.

2323 E. 8th St. *"Pioneers of the Butane Industry"* Los Angeles 21, Calif.

The New Home of ENSIGN'S Chicago Branch Factory

2330 W. 58th ST.
CHICAGO 36, ILL.
TELEPHONE
HEMlock 2500

Complete Stocks and Service

ENSIGN'S new Branch Factory address in Chicago is 2330 West 58th Street, Chicago 36. At this new location ENSIGN has invested in newer and larger facilities for just one reason—to give service.

Complete engineering services and stocks of Natural Gas and Butane-Propane Carburetion equipment for our customers and accounts in the Mid-West are maintained.

We cordially invite you to visit us in our new quarters.

ENSIGN CARBURETOR COMPANY

7010 SOUTH ALAMEDA STREET • P.O. BOX 229 • HUNTINGTON PARK, CALIFORNIA

BRANCH FACTORY: 2330 WEST 58th STREET, CHICAGO 36, ILLINOIS

"Pioneers in Efficient Carburetion" • *Established 1911*

service that was not possible in the old quarters.

The company has had an office in Chicago for 30 years, the last 10 at 2644 South Michigan Ave., where a factory branch office and warehouse was maintained.

C. F. Keene, Chicago branch manager, has been with Ensign during these past 30 years in Chicago. The assistant manager is A. J. St. George.

New demands for more production of natural gas and butane-propane carburetion equipment have made advisable this expansion program.

Frank Shoffstall to Represent Century in Northwest

Century Carburetor Co., Lynwood, Calif., has appointed Frank Shoffstall as its representative in the Northwestern section of the United States.

Mr. Shoffstall, who will for the present have headquarters in Shelby, Montana, plans to spend some time in the development of the Rocky Mountain States territory as well as parts of Western Canada.

No Overhaul for 138,000 Miles

By O. D. HALL

A RECORD of 138,000 engine-trouble-free miles, and without a motor overhaul, is reported by L. L. Hughes, B-P Gas distributor of Erick and Oklahoma City, Okla., on his 1942 model Chrysler car, which he operates 95% of the time on butane.

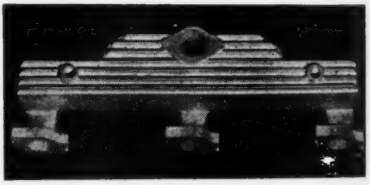
Installation on the car includes a Roadmaster combination gasoline and

Mr. Dealer TRY A MANIFOLD

On Your Own Service Truck

Prove to your own satisfaction that a specially designed *Bu-Power* Manifold puts power and economy into a butane converted truck. Here are some of the reasons why:

1. 60% LOWER OPERATING TEMPERATURES —maintained by the presence of seven cooling fins, extending the full length of aluminum manifold.
2. 73% MORE VOLUME (than stock manifold)—permits the use of larger venturi.
3. PERFECT DISTRIBUTION to all cylinders means a smoother operating engine.
4. EASILY INSTALLED — every manifold has three vacuum brake take-offs.



5. STEEL EXHAUST "BLOCK-OFF" PLATES FURNISHED ON REQUEST — Cutting or welding exhaust manifold eliminated.

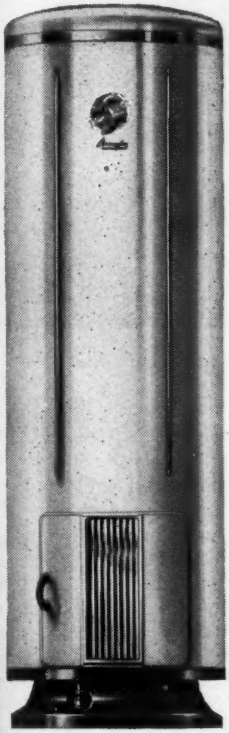
Our dealers, who "Bu-Power" installations, find their customers enjoy BETTER PERFORMANCE—INCREASED MILEAGE.

ELLIS MANIFOLD COMPANY

1708 S. Soto Street ★ Phone AN 1-3463 ★ Los Angeles 23, California

HEATED WITH GAS—

STORED IN GLASS!



SMITHway Permaglas

TRADE MARK REG. U. S. PAT. OFF.

WATER HEATERS

Heated with Gas... the fastest automatic heat there is! The Uniflo Gas Burner, an A. O. Smith development, produces sharp, clean, even combustion over the entire burner ring.

Stored in Glass... in glass-fused-to-steel—sparkling blue, mirror-smooth, sanitary as a clean drinking glass. The *Permaglas* tank CANNOT rust or corrode under any water condition.

There's Only ONE "Permaglas"
A Great Aid to Sales!

Only A. O. Smith produces the truly modern water heater with the tank of changeless glass-fused-to-steel—the heater that stores and delivers hot water as clean as the source itself.

Ample capacities—even for the newest automatic washing machines and dishwashers.

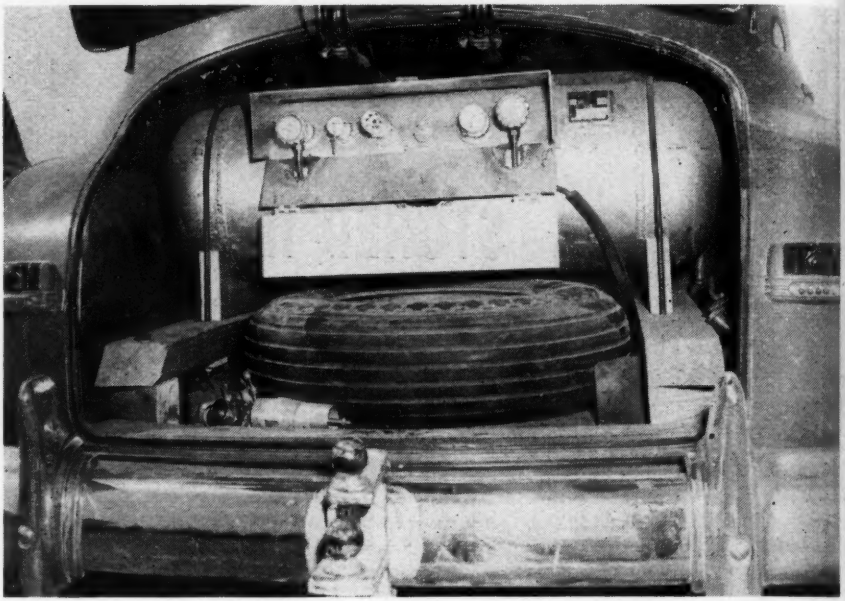
The *Permaglas* story is the newest, most dramatic sales story in the appliance business. Get the whole story for yourself, today. Send for *The Inside Story of Permaglas.*

Permaglas
AUTOMATIC • STORAGE
WATER HEATERS

A. O. SMITH Corporation

NEW YORK 17 • ATLANTA 3 • CHICAGO 4
HOUSTON 2 • SEATTLE 1 • LOS ANGELES 14

INTERNATIONAL DIVISION: MILWAUKEE 1—Licensee in Canada: JOHN INGLIS CO., LIMITED



This 26-gal. butane tank in trunk compartment of 1942 passenger car, supplements regular gasoline tank equipment on the car.

liquefied petroleum gas carburetor. By the simple turn of a petcock in the gas line and the opening of a hand valve, butane or gasoline fuel may be fed to the engine.

The gasoline tank on the car remains in its regular place. The 26-gallon "Economy" butane fuel tank, manufactured by the Dallas Tank Co., is set in the trunk compartment at the rear of the car.

"I am operating this car on butane at about 60% of the cost of gasoline fuel when all elements are taken into consideration," said Mr. Hughes. "While cost of fuel, alone, figured on a mileage basis, is about the same on butane and gasoline, I experience a substantial saving in lubrication, repair and replacement costs.

"I can run 10,000 miles on butane without any discoloration of the oil and I get away from all carbon and spark knocks. I have rebuilt the differential, reupholstered and replaced many body parts while operating with the same engine, which has not required a single overhaul."

Mr. Hughes says he has used the car nearly every day in his business and has operated it in many kinds of weather and over mountain roads. He says he has never experienced starting troubles in temperatures down as low as zero and has never been hampered with the engine or radiator overheating in high altitudes.

The combination carburetor has served him well when his supply of either gasoline or butane has run low. A quick, simple, hand operation makes it possible for him to switch to either fuel until a new supply can be obtained.

They Passed Their Tests...

TO ELIMINATE YOUR WORRIES!

The uncanny accuracy of Rochester LPG Gauges is due to many contro factors. Magnets, for example, are checked for magnetic flux strength and permanency. They have many times the attraction power ever needed to instantly operate the pointers. Aging procedure definitely eliminates the weak ones and any below standard are condemned to the scrap pile.

Such properly processed non-electric magnets never lose their permanency and therefore pointer operation remains constant.

Because the magnetic flux freely passes through the forged brass head without requiring any holes for mechanical connection, this permits a leak-proof construction superior to any other known means of safely measuring volatile liquid under high pressures. Therefore, Rochester Gauges give you accuracy with a big "A" plus positive safety at all times!

ROCHESTER MANUFACTURING CO., INC.
17 Rockwood St., Rochester 10, N. Y.

ROCHESTER LPG GAUGES: Model 3120 Gauge (illustrated) fits Bastian Blessing head No. 2465 or Weatherhead Manifold No. 900 as well as pipe thread risers, 1½" or 2". Model 3121 gauge is designed for Bastian Blessing Multi-Valve head, No. 2418.

Rochester Guaranteed Accuracy

ENGINEERED INSTRUMENTS

LIQUID LEVEL, TEMPERATURE AND PRESSURE GAUGES

CNGA Completes Fall Program

"PROGRAM arrangements for the 1946 California Natural Gasoline Association Fall Meeting have been completed," was the report given the Association's executive committee at its August meeting by the Fall Meeting chairman, Ed. Ragatz, of Bechtel Bros. & McCone Co., Los Angeles.

M. W. KIBRE

Mr. Ragatz, who has had 25 years of experience solving the economic and technical problems of the natural gasoline and refining industries, stated that in preparing the program, his committee had determined the topics on which the natural gasoline industry most urgently needed more information, and had then found competent men to discuss them.

Opening the morning session, Dr. B. H. Sage, California Institute of Technology, will present data and methods which natural gasoline plant designers and process engineers can use to accurately predict the thermodynamic properties of hydrocarbons. Then C. D. Gard and Hugh Colvin, of the Union Oil Co., will discuss the economics of LPG operations from the manufacturer's viewpoint. The final paper of the morning session will evaluate the various methods available for processing absorption plant rich oil.

In the afternoon, following President Kibre's address, Frank West, of the engineering firm of West and Cole, will discuss the selection of absorption pressures for plants to be installed in high pressure fields. In the second paper, R. C. Alden, of the Phillips Petroleum Co., will discuss natural gas conversion by the Fischer-Tropsh process. The final paper of the meeting will be presented by Mr. Ragatz and will deal with the determination of absorber operating efficiencies.

The evening session will be in charge of the CNGA entertainment chairman, Phil. Mettling, of Cooper-Bessemer Co. Mr. Mettling stated that his committee was rapidly completing arrangements for the dinner and show and that both would be of pre-war quality.

Commenting on the interest which is already being expressed in the meeting, George Tyler, Association secretary, stated that a large party of mid-continent natural gasoline men are planning to attend.

The meeting will be held on Friday, October 11, 1946, at the Ambassador Hotel, Los Angeles. Additional information can be obtained by writing the California Natural Gasoline Association at 510 West Sixth Street, Los Angeles 14, California.

Vapo Butane Co. Opens New Office in Poteet, Texas

The Vapo Butane Co., San Antonio, Texas, has opened a new office and display room at Poteet where complete stocks of plants and equipment will be carried. From this office, Pleasanton, Jourdanton and surrounding territories will be covered.

A large bulk plant is planned for the immediate future.

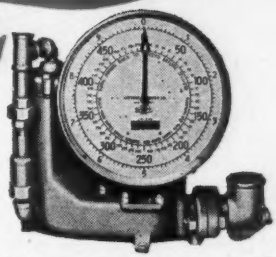
Rodney Mertz will have charge of the new office.

SALES RECORDER that measures your profits Accurately!

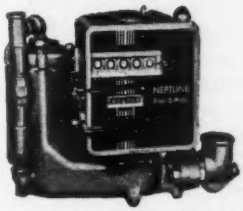
Here's a "cash register" for your bulk storage tanks, dispensing units, and tank trucks. It's the Neptune Red Seal LP-Gas Meter, the meter distinguished for unsurpassed accuracy and long life.

Put this profit protector to work for you and you always know exactly how much LP-Gas you've handled. Heart of the Red Seal Meter is the precision-built and carefully manufactured measuring chamber in which the piston is the *only* moving part. It assures metering accuracy that can't be beat—takes all the guesswork out of deliveries, saves time, effort and speeds handling.

Bulletin 779 tells all about Neptune Red Seal LP-Gas Meters and how they save money and contribute to better business. Write for your copy.



1¼ Inch "Compact Type" 1D Meter with high-visibility Round Dial Register.



1¼ Inch "Compact Type" Meter with Print-O-Meter Register that prints an accurate receipt or invoice of each delivery.

NEPTUNE RED SEAL METERS

NEPTUNE METER COMPANY
50 West 50th St. • New York 20, N. Y.
Branches: **Atlanta, Boston, Chicago, Dallas, Denver, Kansas City, Mo., Los Angeles, Louisville, Philadelphia, Portland, Ore., San Francisco, and Long Branch, Ontario** A649

Service Needs Determine Mixing Limits For Propane-Air and Manufactured Gas

By DAVID L. PRICE*

The Connecticut Light and Power Co., Waterbury, Conn.

THE spotlight of interest in the gas industry is currently focused on the use of liquefied petroleum gas in its production processes. The opinions and action may be classified under two heads: Pyrolysis with resulting chemical reformation, and mixed or undiluted use of the raw material directly in the gas stream.

The former is being actively practiced in our Waterbury plant pursuant to initial experiments by H. M. Kopp, of our company, and the results are a matter of record and worthy of continued attention and research.

It is the purpose of this paper to make available data on the latter consideration—practical information gained to date from the initial steps in an actual test and research program designed to establish the limitations which must be recognized to meet service requirements in any application of L-P Gas mixing.

The mixing of LP-Gases, air diluted or not, with base gases such as carburetted water gas or coke oven gas, is attractive because of the low investment, low producing cost and simplicity of operation attendant to the process. Aside from the economic aspects relating to plant investment and producing costs, relation between base and peak demands, quantities of gases available at different seasons of the year, location with respect to source of supply, reliability of supply and others, there is the exceedingly important requirement of utilization in the appliances.

If good service conditions are to be maintained and readjustment of appliances avoided in changing from one gas to another, definite limits governing variations in heating value, specific gravity and chemical composition must not be exceeded.

The Experience to Date

The essential data accumulated to date deals with the interchange of carburetted water gas with propane-air mixtures when used to mix with, or replace the base carburetted water gas on which appliance adjustment has been made.

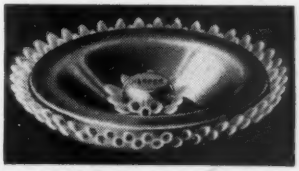
Propane, with a tested heat value of 2422 Btu and 1.35 specific gravity, was used and metered mixtures produced in a 40 cubic foot gasometer provided with a motor-driven mixing device for rapid diffusion of the blended gases. The carburetted water gas used was one of normal chemical constituency, spe-

* A paper presented at the N.E.G.A. Operating Division meeting in Boston, January, 1946.

This is the new, improved
HARPER CENTER SIMMER BURNER

HERE is the new Harper top burner that is winning widespread acclaim from the gas industry. It will find equal favor with housewives because it makes possible even better cooking results than users of the Harper Burner have enjoyed in the past.

Years of laboratory research and field tests contributed to the development of this scientifically engineered burner. The net result is that it makes possible fuel savings up to 39%, eliminates guess-work in cooking, saves pot-watching, keeps kitchens cooler, offers more healthful, less wasteful cooking... cleaner, odorless cooking.



▲ NEW, IMPROVED CONSTRUCTION!
Note how the two rows of flame ports are staggered, permitting better flame adjustment than is possible with ordinary top burners... flames do not "float off" or blow away... combustion is more efficient.

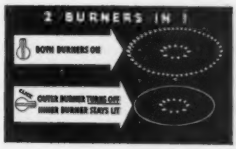
◀ EASIER TO CLEAN!
No castings or bolts to remove... a slight twist removes burner for cleaning.

We're telling your Customers about it!

A NEW CONSUMER advertising program appearing in leading women's magazines tells prospective range buyers about the advantages of the Harper Center Simmer Burner. Many of these 21,500,000 readers will buy from you, and here's how you can trade them up to a higher-priced range:

We have prepared a FREE booklet, "How to Sell More Gas Ranges," which contains a series of quick, convincing sales floor demonstrations that graphically illustrate the superiority of the Harper Center Simmer Burner. Send for copies for your salesmen. Harper-Wyman Company, 8562 Vincennes Avenue, Chicago 20, Ill.

The Harper Center Simmer Burner operates on the unique principle of "2 burners in 1"... a STARTING BURNER for frying and to start foods boiling, plus a small, economical COOKING BURNER, to maintain the cooking... both controlled by the same handle. It is subject to finer gradations of low heats—greater control and economy—than any other top burner made.



HARPER CENTER SIMMER BURNER *"... Holds the Lines for Gas"*

HARPER CENTER SIMMER

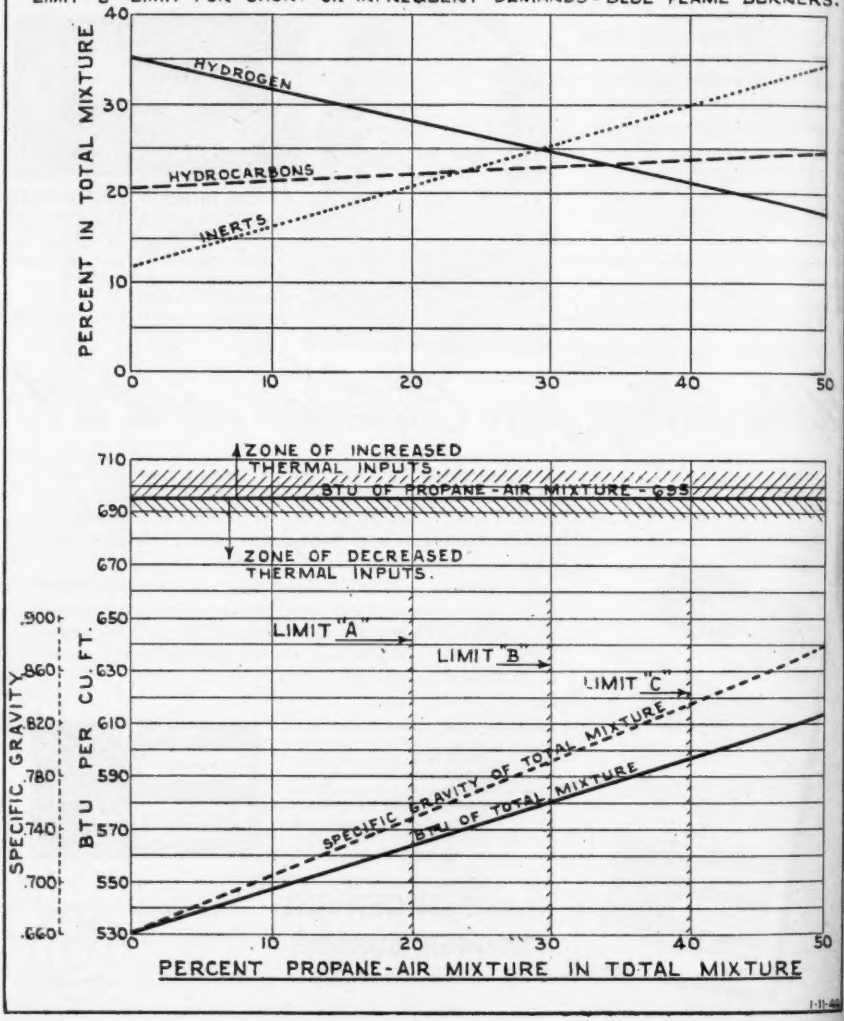
CHARACTERISTICS OF PROPANE-AIR-CARBURETTED WATER GAS MIXTURES

WITH THERMAL INPUT CONSTANT AND EQUAL TO 100% C.W.G. INPUTS

EQUAL GAS PRESSURES

THE CONNECTICUT LIGHT & POWER CO.

LIMIT "A"-LIMIT FOR COMPLETE INTERCHANGE - LUMINOUS FLAME BURNERS.
LIMIT "B"-LIMIT FOR COMPLETE INTERCHANGE - BLUE FLAME BURNERS.
LIMIT "C"-LIMIT FOR SHORT OR INFREQUENT DEMANDS - BLUE FLAME BURNERS.



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PROPANE TANK

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CONFORMS TO NBFU CODE
PULL-TESTED LIFTING LUGS
INSURANCE COMPANY INSPECTED
PERIODIC X-RAY ON PRODUCTION LINE

This tank is bound to be good because it is made in one of the nation's largest and finest equipped pressure vessel plants originally designed to manufacture the big, high pressure, high temperature vessels in which Propane itself is made.

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(INC.)

cific gravity and a heat value of 530 Btu.

A group of appliances regularly supplied and adjusted for carburetted water gas were used in the tests. They were selected as representing the complete range of types from old to modern, including both luminous and blue flame burners.

Many Observations Made

It should be understood that a great number of observations were made involving considerable judgment of test results to decide whether or not the performance of appliance burners on a given mixture was satisfactory. Interpretations are thus rendered susceptible to varying conclusions and are admissible of proof, except within the tolerances generally conceded to be possible in field practice. Such condition then must be accepted since field practice does not permit determinations of the absolute and definite dividing line between satisfactory and unsatisfactory burner performance.

The results further reflect our own situation, independent of that of other companies, and are related to the number and type of burners prevalent on our system. We believe they are conservative enough to be usable for immediate practical application.

The attached graph sheet depicts the characteristics of propane-air-carburetted water gas mixtures and indicates the important facts disclosed. It was not deemed practical to supply all detailed data collected during our tests, but rather to present a summary of the broad conclusions reached.

1. It appears advisable to select a propane-air mixture of a Btu content which provides constant thermal input and equal to the base gas input for any given gas pressure. In our case this is a mixture of 695 Btu.

Deviations above or below this heat value will cause increased or decreased thermal inputs respectively. Decreased thermal inputs may be desired because of economy, but should not be lowered to a point which will impair service. If thermal inputs are kept constant and equal to those obtained on the base gas, then satisfactory appliance performance is retained from the standpoint of heat requirements, and leaves us to deal only with the question of combustion characteristics.

2. The limits to which the 695 Btu propane-air mixture may be used to mix with carburetted water gas, and still retain satisfactory combustion characteristics are shown for complete interchange embodying frequent demands or demands of long duration during which time appliances may be adjusted or installed on the limiting mixture and the sendout gas subsequently reverted back to the base gas.

When Luminous Burners Are Excluded

They are also shown for short or infrequent demands during which time there is no likelihood of adjustments being made on the limiting mixture. Luminous flame burners are not included in this latter category because they either will or will not tolerate the limiting mixture and because the flames are

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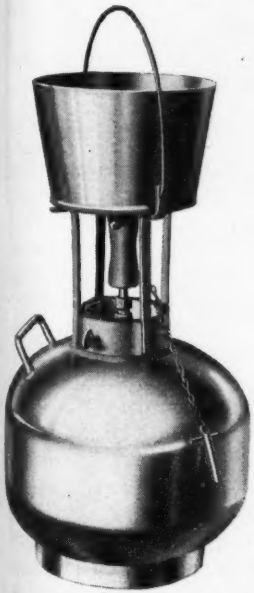
WITH *Mutual*

Streamline Furnaces

Mutual Streamline Furnaces can be used by many craftsmen who must depend on quick, constant heat for their trade. Plumbers, tinsmiths, etc., are steady customers once they use this modern equipment. Mutual Furnaces can mean NEW PROFITS from NEW FIELDS with a minimum of sales effort and expense.



The Mutual Streamline Plumbers Furnace No. 2—for butane or propane—is a light weight lead melting furnace which speeds up the job, assures cleaner, more efficient workmanship with less effort and time. Blow Torch unit can be attached to same fuel cylinder. Like all Mutual products it carries a full guarantee.

The Mutual bench-type Plumber's Furnace No. 2-A can be relied on for greatest efficiency and dependability. This exceptionally fine furnace can be used with any size liquid gas cylinder with a P.O.L. valve. This simple furnace has no gaskets or moving parts. Lasts a lifetime.

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LIQUID GAS EQUIPMENT CO., INC.

3600 West Imperial Highway, Inglewood, Calif.

non-aerated and not subject to primary air pre-mixing.

3. Limit "A"—Limit for complete interchange on luminous flame burners is shown to be 20% of the propane-air mixture in the total mixture or an increase in the base gas volume of 25%.

We wish to point out that with a few exceptions, this low limit of interchangeability on luminous flame burners can be increased to be equal to or higher than the limit on blue flame burners by using a port spacing not greater than ¼ inch and port sizes not smaller than No. 68 drill size.

Some Changes Made in Field

It may be advisable to consider such changes on burners in the field to permit the higher limits of mixing. The answer will be found in a study of the economics involved and should be favorable because of the relatively low number of such burners usually found in use. We, however, have a large number of luminous flame burners with wide port spacing and port sizes of under No. 70 drill size.

We propose to apply further study to this subject, because it is felt that luminous flame burners offer too many advantages from the standpoint of general customer acceptance and satisfaction to have any obstacle placed in the way of their future development.

4. Limit "B"—Limit for complete interchange on blue flame burners is shown to be 30% of the propane-air mixture in the total mixture or an increase in the base gas volume of 42.8%.

5. Limit "C"—Limit for infrequent demands is shown to be 40% of the propane-air mixture in the total mixture, or an increase in the base gas volume of 66.6%.

6. Chemical composition plays the most important, if not the controlling factor, in establishing the permissible limitations.

Avoid Incomplete Combustion

Changes in chemical composition leading to a reduction in ignition velocity first affects luminous flame burners and evidences itself by lifting of the flame and refusal of the flames to propagate from port to port. As previously stated, closer spacing and larger ports will greatly relieve the condition, but care must be taken to prevent tendency toward incomplete combustion or the emission of sooty particles by port sizes of too large a size. Blue flame burners are likewise affected but will tolerate generally lower ignition velocities than luminous flame burners.

It is believed that the free hydrogen and inert content of the base gas form a criterion of limits of mixing. The curves show that Limit "B" coincides with the point of crossing or point of equal percentages of the free hydrogen and inert content in the mixed gases. We noted distinct evidence of departure from good combustion characteristics when the inert content of the total mixture begins to exceed the free hydrogen content.

Again this is primarily true of blue flame burners but not necessarily true of luminous flame burners, where the latter involve high jet velocities because of the small ports generally used, and the prob-

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O'KEEFE & MERRITT promised you a finer precision L-P gas range. Here it is! Check the many extra time-saving, step-saving exclusive features! A range that is factory-built and tested solely for use of Butane or Propane. You'll be proud to sell the finest O'Keefe & Merritt ever built.

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O'KEEFE & MERRITT
GAS RANGE

FIRMLY ESTABLISHED

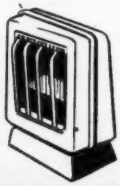
in Public Confidence, Acceptance and Demand

DAY & NIGHT Dealers in the LPG field handle a complete line of water and space heaters. Just the name "DAY & NIGHT" on an LPG water, space or wall heater is enough for the vast majority of buyers. They have full confidence in DAY & NIGHT products and have expressed their strong preference for these products in survey after survey. This widespread buyer preference is the result of a third of a century of consistent advertising . . . plus honest prices and dependable product performance. DAY & NIGHT products are sold through wholesale plumbing supply jobbers in most territories. For the name of your nearest DAY & NIGHT jobber, write us direct.

AMERICA'S FINEST WATER HEATER

WATER HEATERS

CABINET HEATERS



PORTABLE HEATERS

WALL HEATERS

PANELRAYS

DAY & NIGHT MANUFACTURING CO.

MONROVIA · CALIFORNIA

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lem is more closely allied to the physical effect of low flame speeds.

It can be assumed therefore, that base gases with higher free hydrogen content than that in carburetted water gas will permit higher limits of mixing.

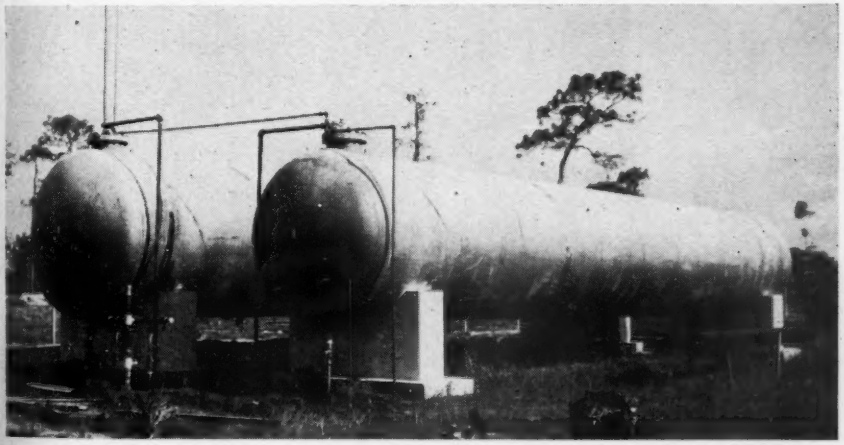
7. It is believed essential that each gas company investigating the possible use of LP-Gas-air mixtures make a careful study of its own local situation, irrespective of the conclusions of other companies, especially if appliances of any outstanding unusual nature exist on their system.

8. We have found no straight propane-air gas mixture to be interchangeable with or that can replace carburetted water gas, without appliance readjustment, replacement or rebuilding.

9. The foregoing test results we believe serve a pattern for future investigation. Since it is significant that other base gases may allow wider limits of mixing and minor appliance changes may serve the same purpose, we are planning to continue our research work with mixtures of LP-Gas and coke oven gas, blue gas, producer gas, hydrogen, inert free gases and others, in single or multiple mixtures. It is our expectation that disclosure of important information will result.

10. We urge that all companies develop similar investigational work and shape and make available their own conclusions in the interest of assured progress of this important subject.

The writer gratefully acknowledges the valued support of Mr. J. R. Beccia, Assistant Engineer, and Mr. F. J. LaFleur, Chemist, in the procurement of the data herein presented.



The 40,000 gal. propane storage for American Machinery Co. bomb plant, Orlando, Fla. The fuel was used exclusively for heat treating bomb shells.

Arkansas Dealer Installs Bulk Plant

AUSTIN FITZGERALD has joined the ranks of the B-P Gas dealers in Arkansas with the installation of his new plant at Fayetteville. Actively engaged in business for more than six months, Mr. Fitzgerald is rapidly adding to his plant and delivery facilities in order to keep up with the growth of his business in that area.

The new 18,000-gal. propane storage shown in the accompanying picture is now being used for propane which is his product at the present time. The truck shown is a 1162-gal. propane delivery unit. The storage tank, built by Chicago Bridge and Iron, was sold and installed by Southern Gas and Equipment Co., of Tulsa. This company also built the truck tank and designed and built the bulk station which includes bottle filling facilities.

A Smith pump is being used for bottle filling. Much of Mr. Fitzgerald's business is installation and servicing of underground tanks. Southern Gas underground systems are used for this work.

The plant is located on U. S. Highway 71.

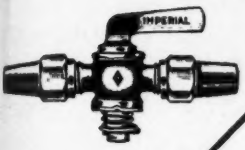
Scott Sims, Texas Dealer, Died in Fort Worth July 6

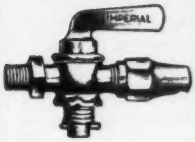
Scott Sims, identified with the LP-Gas industry since 1940, passed away in Fort Worth, Texas, July 6. He was 36 years old.

Mr. Sims was a partner with Elmer Atkins and Elwood Allen in the Allen Butane Gas & Equipment Co., of Fort Worth.

The new bulk plant at Fayetteville, Ark. Beside the tank truck are H. C. Baird, driver; Irwin Fitzgerald and Austin Fitzgerald, owners.

BRASS FITTINGS • COPPER TUBING
• TOOLS FOR TUBING • VALVES & COCKS





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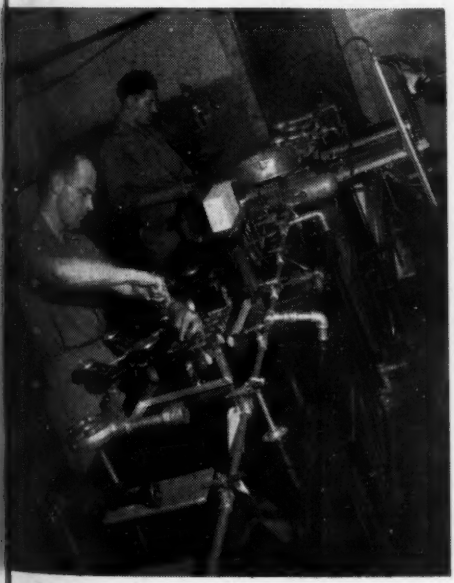

On Practical Problems of Domestic Installations, Transportation, Appliances, Bulk Plant and the safe installation, operation and maintenance of L-P Gas Equipment.

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CNGA Statistical Report Issued in Three Sections

"As convenient to use as a dictionary and just as authoritative," is what users are saying of the new California Natural Gasoline Association statistical report of operations in the California natural gas and natural gasoline industries, according to Geo. L. Tyler, Association secretary.

GEO. L. TYLER

The report, which has been issued since 1928, was recently expanded to include the production and disposition of gas from dry natural gas wells, and to give more complete coverage of the production and distribution of propane and butane. It now makes available to industry substantially the same information that was funished the Petroleum Administrator during the recent war emergency.

For greater user convenience the report is now issued in three sections. Report No. 1—Report of Natural Gasoline and Cycling Plant Operations—shows by fields: Gross Wet Gas Treated; Total Liquid Extract; Natural Gasoline Produced (Gallons and Weighted Average Vapor Pressure); Special Products (isobutane, etc., to refineries); and Commercial LPG Marketed.

Report No. 2—Report of Production and Disposition of Oil Well Gas—shows by fields; Crude Oil Production; Net Formation Gas Production; Gas Used for Repressuring; Plant Fuel and Shrinkage; Other Field and Plant uses; Unconserved Gas; Transfer; and Deliveries to Gas Companies. It also shows Oil Well gas sales to gas companies by districts, and gas company oil well gas transport deliveries by classes.

Report No. 3—Report of Production and Disposition of Dry Gas—shows by fields; Net Formation Gas Produced; Field Fuel and Other Uses; Unconserved; Delivered to Gas Companies.

The reports are copyrighted by the Association, and are furnished free to members; they may be subscribed to by non-members. Additional information concerning them may be obtained from the secretary at the California Natural Gasoline Association office, 510 West Sixth St., Los Angeles.

Oklahoma Fire Marshal Will Condemn Non-Code Tanks

Oklahoma State Fire Marshal T. J. Ellis has warned B-P Gas dealers in Oklahoma against installing or selling any non-code butane or propane tanks.

T. J. ELLIS

"Our office intends to inspect as fast as possible, all consumers' tanks in Oklahoma. Any tank found to be nonstandard, or noncode, and not installed by a licensed and bonded installer, will be condemned," said Mr. Ellis.

The fire marshal advised all dealers and distributors to study the rules and regulations carefully and comply with them strictly for their own

Delta Tank Manufacturing Company, Inc.

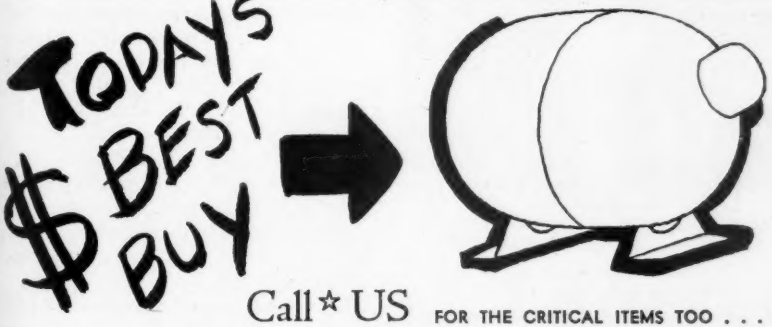
Baton Rouge, La.
P.O. Box 1469
Phone 3-7416

Macon, Ga.
P.O. Box 1091
Phone 9936

We wish to announce the opening of our new Butane and Propane Tank Plant in Macon, Georgia.

We have available for sale at both of our plants a quantity of consumer tanks in all sizes we manufacture. We can also furnish your truck tank requirements.

Your Inquiry Will Be Appreciated



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"Pacific" 100 Gallon Above Ground Propane Tank . . . Fittings enclosed under hinged dome . . . Light Weight . . . Rugged . . . Easily Handled . . . Either Code . . . Immediate Delivery . . . LOW COST.

FOR THE CRITICAL ITEMS TOO . . .

Differential Pressure Regulators — Hot Plates — Water Heaters — Floor Furnaces.

If your quantities can't be filled today, we shall allocate the merchandise fairly and equably.

☆ UTILITY SUPPLY COMPANY

P. O. Box 365—Fresno, California

Exclusively Wholesale for LPG Dealers

protection, as well as for the protection of their customers.

The revised rules and regulations, recently issued by the state fire marshal, as Oklahoma liquefied petroleum gas administrator, were adopted pursuant to a law enacted at the last session of the legislature. They make it unlawful for any B-P Gas dealer or distributor to fill any tank which has not been installed by a licensed and bonded installer.

"Prairie Gas" Opens New Plant in Kansas

BYRON BRISTOW

CHARLENE BRISTOW

WITH the opening of its new headquarters at 420 North Kansas Ave., Liberal, Kan., in June, the Prairie Gas & Equipment Co. completes 10 years of development of its business in the liquefied petroleum gas industry.

Now located in the rich Kansas Panhandle district, the company plans to concentrate upon domestic installations among the farmers in that region, specializing in aboveground propane tanks. A full line of domestic appliances will be carried, including those for natural gas as well as for LP-Gas.

Byron L. Bristow, manager of the company, and Charlene Bristow, office manager, believe they have made a constructive move in locating in Liberal and are setting up the company so they will have ample storage to see their customers through winter peak periods.

An 18,000-gal. bulk plant has been built and two domestic service trucks put in operation. Only propane will be sold.

The Bristows started in business 10 years ago near Oklahoma City.

Florida Briefs

By JOSEPH LAWREN

The city council of St. Petersburg recently passed on first reading an ordinance to impose a 10% utility tax on retail purchases of electricity, water, metered and bottled gas, local telephone service and fuel oil for heating purposes.

Effective Oct. 1, the new tax will be enforced for the next five years. It is expected to raise approximately $400,000 annually. Hospitals will take top priority in the expenditure of funds derived from this source.

The tax will be collected at the point of sale, and paid into the city on the 15th of each month by the seller.

•

W. R. Conway, Orlando, recently returned from a 6000-mile buying trip.

Mr. Conway reports that the manufacturers he met on his 26-state buying tour were optimistic enough over production prospects to schedule car-

Hidden Ingredients

IN EVERY SHIPMENT OF SINCLAIR LP-GASES

SINCLAIR "Integrity", "Reputation" and "Personal Service" are "hidden ingredients" which come to you in every shipment of SINCLAIR LP-GASES. These make the name SINCLAIR mean more to its dealers.

The test of a source of supply is in the way it takes care of its customers requirements during the season of peak consumption. SINCLAIR'S planned production fills the orders of its dealers with regularity. Plan your propane purchases with SINCLAIR now.

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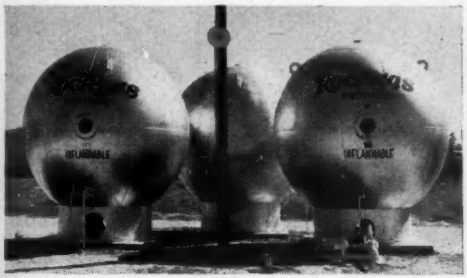
LIQUEFIED PETROLEUM GAS DIVISION



LARGE CAPACITY IN A SMALL SPACE WITH ATTRACTIVE APPEARANCE

THREE 5000 GALLON SPHERICAL PROPANE STORAGE TANKS SHOWN IN USE BY THE HEMIT FUEL SUPPLY AND BUILT BY THE

SUPERIOR TANK & CONSTRUCTION CO.

6155 SO. EASTERN AVE. PHONE AN. 4157 LOS ANGELES, CALIF.

load shipments of appliances for his firm for October and November delivery.

However, he found only two of the 42 gas appliance manufacturers he visited reported production equalling or exceeding 1941 production.

•

Lennie Williams and wife,, Josephine, both formerly employed by the Florida Public Utilities Co., have resigned to engage in business of handling liquefied gas sales and bottling refills. Their business, The Ideal Gas Service, will operate in Miami.

For three years Mr. Williams was in the Coast Guard.

•

Albert L. Baker has opened the Home Equipment Co. at 1819 Central Ave., St. Petersburg. He will handle a full line of gas appliances for the butane-propane users.

Indoor Climate Institute Publicizes Central Heating

At a board of directors meeting of the Indoor Climate Institute, held June 18 in Detroit, plans for the Institute's activities for the coming year were discussed and approved.

In order that the entire heating industry may receive first-hand an outline of the plans of the Institute's 1947 operation, a meeting was held Aug. 15, at which time these plans were outlined to presidents, secretaries, managing directors and chairmen of publicity committees of all trade associations in every branch of the heating industry, as well as representatives of trade and shelter magazines. Detailed announcements of the meeting will be made later.

BUILT-IN SAFETY and ENDURANCE . . . by DOWNINGTOWN

Safety and endurance are a prime requisite for under-ground or above-ground storage of L-P Gas.

Downingtown has, for more than 30 years, designed, fabricated, specified materials and selected methods for storing all types of materials. Its bulk storage tanks, built to A.S.M.E. standard and complying with all requirements of the Hartford and National Board of Fire Underwriters Specifications, are safe, enduring and protect the user of L-P Gas.

Consult Downingtown, they will assist you in planning and developing your specific job.

DOWNINGTOWN IRON WORKS
DOWNINGTOWN, PA.
WELDED and RIVETED PRODUCTS

Seventeen years of pioneering

For nearly two decades Standard of California has been improving the production of liquefied petroleum gases. Wide industrial, commercial, and domestic use of these top-quality products testifies to the efficiency of these Standard L-P gases.

STANDARD

PRO-GAS . . . A propane product. Bulk delivery for domestic, commercial, and industrial use. Meets requirements of steel cutting, annealing, brazing, stress relieving, heat treating.

FLAMO . . . For domestic, light industrial, and commercial uses.

CALOL INDUSTRIAL GASES . . . Designed specifically for utilities manufacturing gas distributed through gas mains.

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FEATURES THAT SELL

A.G.A. Approval, Hi-Crown Burners, Automatic Lighting, Syphonaire Chassis, and Air Insulated Cabinets are features your customers want. Finer—Safer heaters, yet priced unbelievably LOW. Write for literature.

DEARBORN

WORLD'S FINEST...SAFEST

L. P. G. GAS HEATERS

A complete line of Vented and Unvented Quality heaters. Their Ultra Smart Appearance, Outstanding L.P.G. Performance and many Exclusive Features create unprecedented user enthusiasm. You are assured satisfied customers and decidedly lower service costs when you sell this fine line.

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FAMOUS HI-CROWN BURNER

BLUE FLAME PILOT LIGHT

Leading L.P.G. Distributors from coast to coast rate it the finest of all burners for Butane. It "performs" without coaxing, constant cleaning or adjusting. Its quiet, odorless operation, great flexibility and reserve capacity insures your customers being completely satisfied.

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3625 S. Grand Ave.
LOS ANGELES, CALIF.

THE TRADE

Appointment of Raymond H. Van Saun as manager for its Mexico City plant is announced today by the directors of Rheem de Mexico S.A. who operate the new company in cooperation with **Rheem Manufacturing Co.**

Mr. Van Suan is in the United States to arrange for the shipment of machinery for the new factory now rising at Tlalnepantla, an industrial suburb of Mexico City. Production of steel shipping containers and inexpensive water heaters and space heaters for the Mexican market is scheduled for the third quarter of this year.

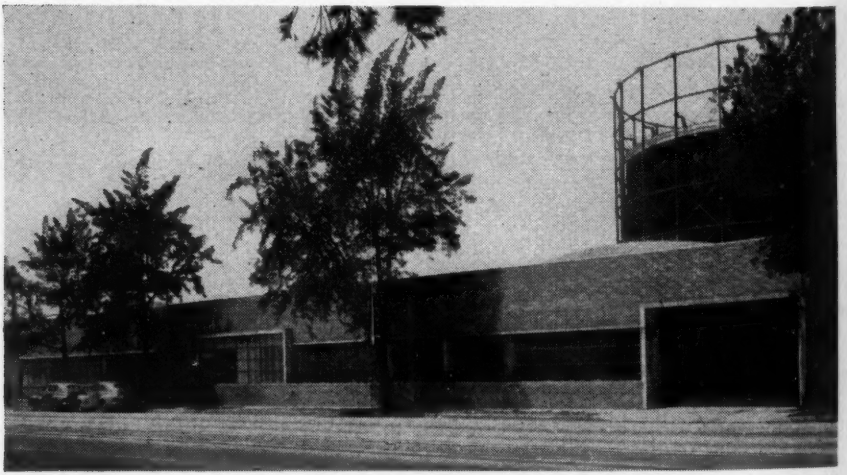
Completion of a new, modern, factory building at 875 South Arroyo Parkway, Pasadena, Calif., has been announced by **Holly Manufacturing Co.**, makers of forced air and gravity furnaces and the patented "Stubby" floor furnace.

The new plant, which is now in full scale operation, comprises 33,000 sq. ft. of floor space and houses both the general offices of the company and all manufacturing facilities.

Previous to the present move, Holly was located in South Pasadena.

Charles E. Gill has announced the formation of the **Natural Gas Odorizing Co., Inc.**, which has taken over the assets of the Natural Gas Odorizing Co. and the Petroleum Chemicals Manufacturing Co., and will operate the facilities of both.

Officers of the new company are Charles E. Gill, president; John C.



The new plant of the Holly Manufacturing Co., Pasadena, Calif.

ECONOMY SPHERES

A.S.M.E. Code constructed with standard approved fittings. Now available for storage and transport of either Butane, Butane-Propane mixtures, or Propane. Capacities of 150-250-430-1000 water gallons for above ground installations and truck mountings. Write for details.

TANKS BY BANKS

DALLAS TANK Company, Inc.

201-5 W. Commerce St. - P.O. Box 5387 - Dallas, Texas

Worth, vice president and treasurer; Howard W. Anderson, secretary. The plant and general office are located at 7620 Wallisville Road, Houston, Texas.

The principal products will be those formerly marketed by the Natural Odorizing Co., "Captan," the natural gas, and "LP Captan," the LP-Gas odorant.

J. D. Anderson of the L.G.E. Corp., San Francisco, announces the opening of a branch office and warehouse in Reno, Nev. The office will be located at 105 Lake St.

This organization has also taken on the distributorship of new lines of equipment and appliances for the B-P Gas industry. These include the H. E. Lynn & Co. products in the states of California, Oregon, Washington, Idaho and Nevada. It will also represent the Apex appliance line which will include washers, ironers and vacuum cleaners, for western Nevada and seven counties in California along the California-Nevada border, as far south as Bishop.

Henry Moecker, Jr., has announced his retirement as manager of American Stove Co.'s Cleveland manufacturing division, effective Aug. 1, thereby bringing to an end a half-century of uninterrupted service to this gas range manufacturer.

Mr. Moecker has been manager of the Cleveland plant, which produces "Magic Chef" gas ranges, since 1934. He began with the company at Harvey, Ill., as a bench and machine worker in 1896 and rose to the posi-

LANCASTER BULK STORAGE TANKS

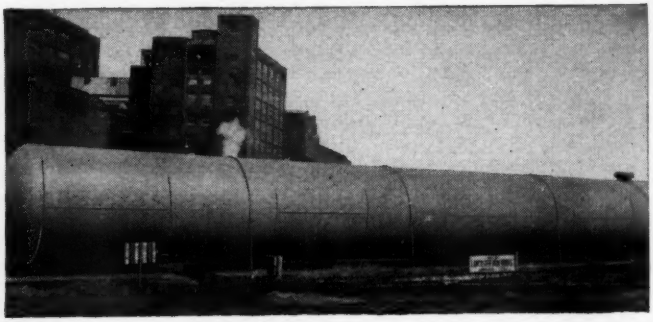
Designed For Rigid Requirements

Butane **Propane** **Gas Plants For Municipalities**
Butane-Propane Mixtures **Truck Tanks** **Skid Tanks**

Your Inquiries Are Cordially Invited

Lancaster Iron Works, Inc.

Lancaster, Penna.

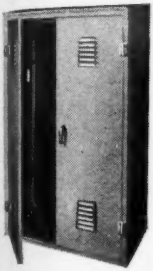


OXFORD BOTTLED GAS CABINETS

for Long and Satisfactory Service

(Right) Dual Hood Type

(Below) Full Size Cabinet



Thousands of Oxford Bottled Gas Cabinets, Full Size, Single Hood and Dual Hood Types are in use in many parts of the country, giving highly satisfactory service. Constructed of heavy metal with a protective coating of paint or galvanized to insure rust resistance, cylinders, valves, regulators, etc., are safely guarded from accidents or weather. Write for prices and details.

OXFORD LIQUID PROPANE VAPORIZER

Designed for bulk plant installations. Insures vaporized gas in any degree of cold weather. Outstanding superiority is that it is installed OUTSIDE the tank—always accessible. Write for details and prices.

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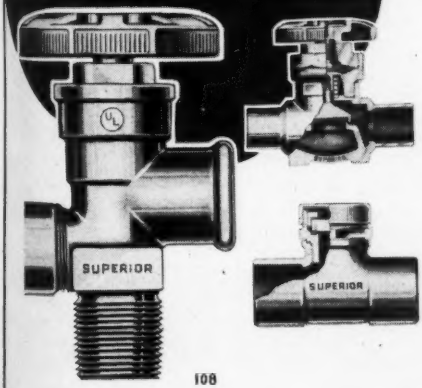
Superior LP-GAS VALVES AND ACCESSORIES



108

For Bulk Stations, Tank Trucks, and above and below ground systems.

★ **LP-GAS CYLINDER VALVES** are listed as Standard and for re-examination service by Underwriters' Laboratories, Inc.

★ **GLOBE, LINE AND ANGLE VALVES** — Diaphragm Packless and Wing Cap — in Flare sizes from ¼" to ⅝" O.D.; Sweat sizes from ¼" to 2⅛" O.D.; F.P.T. sizes from ½" to 2".

★ **SIGHT GLASSES,** suitable for any normal LP-Gas pressure. Entire top assembly removable while soldering lines to body.

★ **FLARE FITTINGS,** including Unions, Couplings, Adapters, Elbows, Tees and Nuts — listed as Standard by Underwriters' Laboratories, Inc.

SUPERIOR VALVE & FITTINGS COMPANY

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1—A DEPENDABLE SOURCE
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Then inquire—

Cities Service Oil Co.

In Propane also

CITIES SERVICE
means
GOOD SERVICE

CITIES
Service Oil Co.
(Delaware)

BARTLESVILLE, OKLA. — CHICAGO, ILL.

Other Sales Offices

Cleveland — Kansas City
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tion of plant superintendent in 1920. He has been a member of the company's board of directors for many years.

A. W. Leeseberg, formerly the production coordinator of the Cleveland manufacturing division of the company, has been appointed manager of the Cleveland division, according to a recent announcement by Arthur Stockstrom, American Stove Co. president. Mr. Leeseberg's story is that of "office boy-to-manager" in 40 years of continuous uninterrupted service to the company.

Lyle C. Harvey, president of The Bryant Heater Co., Cleveland, announces the appointment of Gordon Rieley, vice president of the company, as general manager of the new Bryant plant now being completed in Tyler, Texas.

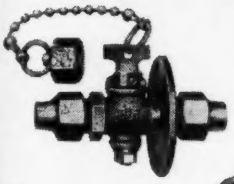
GORDON RIELEY

Mr. Rieley, until recently on leave of absence while serving as Divisional Director of the New Building Section of the Office of Price Administration, assumed his new duties July 25.

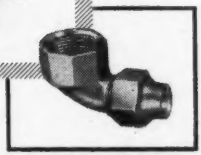
Production in the new Bryant Texas plant, for which ground was broken in October, 1945, was scheduled to begin in August, with gas-fired, hot water heaters scheduled as the initial item of production. Manufacture of space heaters and other gas appliances will follow to complete the line of products assigned to the new plant, which contains 105,000 square feet of floor space.

Mr. Rieley has been associated with

Designed TO MEET LP-GAS NEEDS



No. 7665 Floor Stop



No. 9500 Stove Elbow

HAYS — 17 YEARS — DEPENDABLE SERVICE

Hays has worked closely with LP-Gas Engineers, to design and produce a complete line of stops and fittings for every installation need, for use with flared tubing. Couplings are included, no other fittings or adapters are necessary.

Illustrated are No. 7665 Floor Stop, ideal for temporary disconnections, with adjustable flange, and with or without cap and chain, ⅜" or ½" tubing (o.d. sizes); and No. 9500 Copper to Female I.P. Stove Elbow, ⅜" or ½" tubing (o.d. sizes) x ¼" iron pipe.

Send us your requirements, for complete information and specifications.

Write for NEW LP-Gas Folder 101

HAYS MANUFACTURING CO., ERIE, PA.

Immediate delivery on

LPG SYSTEMS

Shipments from Bessemer, Alabama, ASME Underwriter Approved Tanks, 125 to 200 pound working pressure, aboveground or underground.

Eight years' experience in building quality tanks.

L. P. G. EQUIPMENT COMPANY

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Applause is a natural expression of appreciation . . . and so it is with the great American Public's appreciation for the outstanding performance of Peerless Heaters.

Today's great demand is a result of Peerless insisting on QUALITY FIRST . . . Even with today's unprecedented demand, Quality Remains First . . . and QUALITY will continue to be FIRST . . . thus maintaining consumer preference.

Remember . . . . PEERLESS First on the Heat Parade.

MANUFACTURING CORPORATION
Incorporated
LOUISVILLE, KENTUCKY
Since 1884

Bryant for the past 12 years, where he has specialized in market research and analytical phases of Bryant sales and production.

Announcement is made that Robert W. Ward has been elected a vice president of **American Car and Foundry Co.**, and placed in charge of manufacturing. Mr. Ward was previously district manager of the ACF Huntington, W. V. plant. He will make his headquarters in New York.

R. W. WARD

W. E. Lunger, general superintendent of the ACF Huntington plant, has been appointed district manager of that plant.

Harold L. Kennedy has joined American Car and Foundry as sales agent at its Washington, D. C., district sales office.

A native of Savannah, Ga., Mr. Kennedy began his business career in the supply department of the Central of Georgia Railway Co.

Willard M. Broxham has been named manager of sales for the fabricated plate division of the **Graver Tank & Manufacturing Co., Inc.**

He formerly managed the concern's Philadelphia office and now makes his headquarters at the general offices in East Chicago, Ind.

Warren Stuckey has been appointed chief engineer of the **Moore Corp.**, Joliet, Ill., manufacturer of stoves, ranges and heaters, according to announcement by Bernard J. Hank, Conlon Corp., Chicago, Moore's president.

Mr. Stuckey spent 10 years as chief

Butane & Propane

Carter

Carter high quality Butane and Propane are unsurpassed as domestic and industrial fuels. Bulk loading points, St. Elmo, Illinois, Seminole and Stonewall, Oklahoma. Wholesale only. Your inquiries are solicited.

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TULSA, OKLAHOMA

THE TANK WITH A FUTURE

The performance of "UTILITY" LP Gas Equipment has been proven in past years. For a guarantee of SUPERIOR Equipment and dependable service . . . give us your order today!

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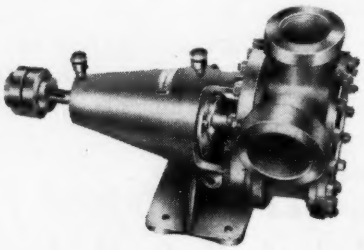
If You Have A Good
MOTOR
We Can Supply The Right
PUMP



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Sturdy, long-lived, turbine type pump to fit your motor now available from our stock.

**FOR TRANSFER-
TANK CAR UNLOADING-
BOTTLE FILLING-**

Let us hear from you—stating your requirements.

CORKEN'S
L P GAS EQUIPMENT DEPT.
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OKLAHOMA CITY 2, OKLA.
Tel. LD 765, 7-6517

testing engineer of the Florence Stove Co., Kankakee, Ill., including service as chief research engineer.

Parkhill-Wade, Los Angeles, announces that on Aug. 5 its offices were moved to a new location, at 5017 East Anaheim-Telegraph Road.

The mailing address is Box No. 6877, East Los Angeles Branch, Los Angeles, 22.

Announcement has been made that **R. W. Stafford,** formerly chief engineer of Connelly Iron Sponge & Governor Co., has resigned to organize a new company which will engage in engineering and construction work in the gas industry. Mr. Stafford was associated with the Connelly concern for more than eight years and is well known throughout the gas industry for his knowledge of production and distribution engineering problems.

R. W. STAFFORD

The new company is now incorporated under the name of The R. W. Stafford Co., with offices at 162 N. Franklin St., Chicago, and will provide a consulting engineering service specializing in the liquefied petroleum gas field and production, distribution and construction in the manufactured gas industry.

John A. Seubert has been elected president of the **Estate Stove Co.,** Hamilton, Ohio, according to an announcement made by Henri Sadacca, president of Noma Electric Corp., New York, which recently acquired Estate

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. . . specify Graver LPG storage tanks . . . their fabrication, including welding, X-raying and stress-relieving, adheres to ASME Code standards for Unfired Pressure Vessels.

Shop built and field erected, Graver bullets or spheres are available in any size or capacity to meet your specific requirements.

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LONGER LASTING

McDonough Steel Company craftsmen build butane and propane tanks to last. That is one reason why members of this industry have relied on McDONOUGH tanks for nearly twenty-five years. Why not use the facilities and skilled personnel of McDonough Steel for *your* tank orders.

TANKS

McDONOUGH STEEL CO.** ***tank installations have these three essentials: sound engineering, finished craftsmanship and exact conformity to specifications.

PATRICK W. McDONOUGH, President
McDonough Steel Co.

McDONOUGH STEEL CO.

FORMERLY BOILER TANK & PIPE COMPANY

800 75th AVENUE · OAKLAND 3, CALIFORNIA

through a subsidiary organization, Triumph Industries, Inc.

David Kahn, former president of the Estate Stove Co., was named chairman of the board of directors. Mr. Seubert and John Bess, another Noma executive, were added to Estate's board of directors, which now includes Mr. Sadacca, William A. Marshall, Charles Pierce, David Kahn and Bertrand Kahn.

Mr. Seubert said that Mr. Marshall, a vice president of Noma Electric, will be in charge of Estate's manufacturing operations and Mr. Bess will direct its sales and advertising.

"We will have an entirely new Rego exhibit especially prepared for the National Butane-Propane Association's convention in Chicago," said R. E. Poethig, sales manager, in connection with **The Bastian-Blessing Co.'s** plans for the meeting.

"Not only will the exhibit contain several new Rego products that will be of unusual interest to all safety-minded LP-Gas operators, but it will feature an animated display of educational value."

By way of diversion, Bastian-Blessing has arranged the "Rego Hour," to be held in the roof bungalow of the Continental hotel. Details about this part of the company's program will be announced later.

The appointment of A. Lightfoot Walker as his executive assistant was announced in March by R. S. Rheem, president of **Rheem Manufacturing Co.**

He will make his office at the eastern headquarters of the company in New York.

One of Texas' postwar plants, the Dallas factory of the **Hotstream Heater Co.**, is rapidly getting into full production under the supervision of Roy W. Tarleton, general manager of the plant.

Devoted exclusively to the production of water heaters, this operation first began in September, 1945, on a site located six miles west of Dallas. Full production for present plant facilities will soon be realized if sufficient materials can be obtained.

An additional 100 ft. has been added to the original building recently, making it 300 ft. long by 60 ft. wide. Plans for future expansion are already being considered.

Mr. Tarleton, who heads this Texas division, is well known in the gas in-

The Dallas, Texas, plant of the Hotstream Heater Co.

Now Available

Comprehensive

PUBLIC LIABILITY INSURANCE

A policy completely covering all hazards for which the operator, distributor or dealer might be liable, or assume under contract.

•

Also

Motor Vehicle Coverage and/or Workmen's Compensation Coverage

•

(See March, 1946, Butane-Propane NEWS, Page 19, for complete explanation of coverage.)

•

This agency does not deal through local agents owing to the special hazards involved. All inquiries must be directed to—

LOUIS H. COLLAR

Manager

Liquefied Petroleum Gas Insurance Underwriters

1913 Tauromee Ave., Phone: DRexel 3331

Kansas City 2, Kansas

dustry through his many years of active participation in manufacturing and gas association work. He was with Southern Heater Co., Compton, Calif., for over 14 years and for many years was active in the Pacific Coast Gas Association.

GORDON BOYLE

Gordon D. Boyle, sales representative for the **Tappan Stove Co.**, Mansfield, Ohio, has been named a district manager for the firm, according to an announcement made by A. B. Ritzenthaler, vice president in charge of sales.

Mr. Boyle, who has been with Tappan Stove since 1935, will be in charge of Kentucky, Tennessee, southern West Virginia, and southwestern Kentucky.

Announcement is made by **American Car and Foundry Co.**, that Norman H. Shipley has been appointed district manager of the ACF Madison, Ill., plant. He has been with the company for 34 years.

Appointment of Robert D. Stetson as manager of the advertising and sales promotion department of **Shell Oil Co., Inc.**, has been announced by L. G. McLaren, marketing vice president.

Mr. Stetson is well known in the petroleum industry as an executive. He started with Shell in Los Angeles in 1922, and succeeds R. G. (Bud) Landis, now manager of the newly-created motion picture department.

Reduction of accidents to the vanishing point has won the U. S. De-

3rd EDITION

Handbook
BUTANE-PROPANE GASES

342 Pages of Up-to-Date LP-Gas Information, Charts, Diagrams and Photographs

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Chapter 2: Properties of Butane-Propane Mixtures.
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Chapter 2: Storage Tank and Pressure Vessel Design.
Chapter 3: Liquid Metering and Pumping Systems.

PART 5.—DISTRIBUTION OF LP-GAS

Chapter 1: Installing and Servicing LP-Gas Systems.
Chapter 2: Semi-Bulk Systems.
Chapter 3: Bottled Gas Systems.
Chapter 4: Gas Utility Service From Central Plants.
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PART 6. UTILIZATION OF LP-GAS

Chapter 1: Comparative Performance With Other Fuels.
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Chapter 3: Domestic Applications.
Chapter 4: Commercial Applications
Chapter 5: Industrial Applications.
Chapter 6: Enrichment, Peak Load and Stand-by Uses.
Chapter 7: A Fuel for Internal Combustion Engines.

PART 7. REGULATIONS

Section 1: N.B.F.U. Pamphlet No. 58.
Section 2: Motor Carrier Regulations.
Section 3: Freight Regulations.
Section 4: Unloading Tank Cars.
Section 5: Marine Regulations.

PART 8. APPENDIX

Section 1: Products Liability Insurance.
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Approved: California Industrial Safety Division No. 2099. Louisiana Liquefied Petroleum Gas Commission. Texas Railroad Commission. Inlet pressure—up to 250 lbs. tank pressure. Outlet pressure—11 in. water column. Capacity—400 c.f.h. Plus. Fittings—inlet P.O.L., outlet ¾".

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On request we will be pleased to send you the performance chart on the HELCO Regulator 100.

H. E. Lynn & Co., Inc.

548 S. Spring St.
Los Angeles 13, Calif.

partment of Labor's "Certificate of Safety Achievement" for the natural gas and gasoline division of Shell.

Secretary of Labor Schwellenbach recently sent the Certificate to Robert S. Tulin, division general manager, with a letter complimenting the division on attaining a perfect safety record without a single disabling accident for a period of six months.

A. J. Kerr, general sales manager of **Pittsburgh Equitable Meter Co.**, has announced the appointment of W. R. McLaughlin as sales manager for the gas products division. In his new position Mr. McLaughlin will direct the sales for Emco meters, regulators, and allied equipment for measurement and control.

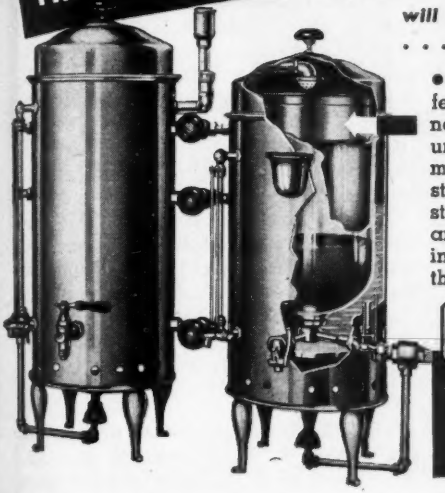
W. B. McLAUGHLIN

Mr. McLaughlin has spent his entire business career in the gas and oil industry, having been associated with the Arkansas Natural Gas Company for a period from 1919 through 1934 when he joined the Pittsburgh concern as a sales engineer.

Mr. Kerr also states that A. G. Kirker has been appointed service engineer in the firm's Boston district office, under the jurisdiction of F. C. Arons, district manager, where he will handle sales and service of Pemco-Merco products in Connecticut and sections of Rhode Island.

The need for a more inclusive program than the regular sales and service training program now avail-

TRI-SAVER COFFEE URNS outstanding load builders



will make full-flavored delicious coffee . . . without urn bags or filter papers

• Your customers will like this exclusive feature — the patented Tri-Saver permanent stainless steel filter which eliminates urn bags and filter paper. The urns are made entirely of long-lasting stainless steel with "Sealweld" burnout-proof construction guaranteed to prevent leaks and burnouts. You'll build good-will and increase your LP-Gas load by selling the finest coffee urns now on the market.

Send for catalog giving full details about these unusual load-builders.

S. BLICKMAN, INC.
MANUFACTURERS OF FOOD SERVICE EQUIPMENT
2109 Gregory Ave., WEEHAWKEN, N. J.

YOU LOSE 500 TO 1000 LBS. of LP Gas in every tank car unloaded

. . . if you don't salvage residue vapor!

You pay for this residue vapor poundage and for its transportation! It cannot be recovered by an ordinary liquid pump, but it can be recovered with the Brunner LP Gas Unit, a compressor assembly that pumps volatile liquids and salvages their residue vapor. Unloading, too, is speeded. When you buy a Brunner LP Gas Unit you buy a pump that has world wide acceptance and is the best for the purpose, regardless of the price paid. The savings affected liquidate the investment in a short time. On any liquid petroleum handling problem consult:

BRUNNER MANUFACTURING CO.
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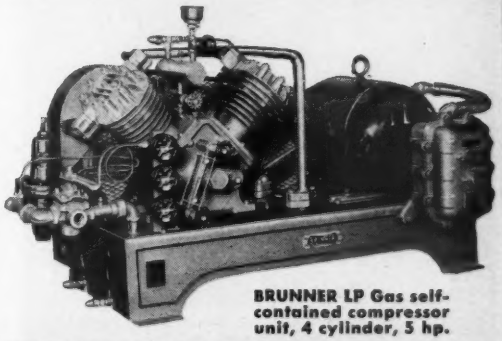
For over 40 years the Symbol of Quality



BRUNNER LP Gas self-contained compressor unit, 4 cylinder, 5 hp.

WRITE FOR THIS NEW FREE BOOKLET

It describes the Brunner LP Gas Unit and contains more illustrations, diagrams, tables and valuable information on the handling of LP Gas than any booklet ever issued.

THE KEY···
to a
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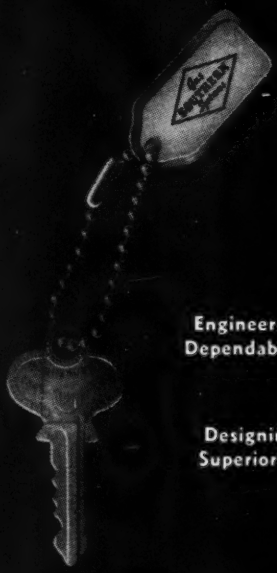

Engineering Dependability

Designing Superiority

Gas SOUTHERN Systems

SOUTHERN GAS & EQUIPMENT CO.

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Atlanta, Georgia
SOUTHERN GAS & EQUIPMENT COMPANY OF TEXAS — Houston

new presentation by the **Geo. D. Roper Corp.**, Rockford, Ill.

"Springboard to Action," as the new program is called, consists of a series of dealer meetings given by the Roper Corp. sales department. These meetings are now being held throughout the country with selected dealer groups attending. The purpose of these meetings is to inspire the dealers with the future opportunities in the gas range market.

Pocket size pamphlets are being distributed, each keyed to a specific requirement necessary to the educational requirements of salesmen.

Also available are demonstration units which can be connected for practical demonstration.

The Rochester Manufacturing Co., Rochester, N. Y., announces the appointment of R. A. Tollefsen as chief engineer for the company. He will be in charge of the design of all indicating gages for temperature, liquid level and pressure.

R. A. TOLLEFSEN

For the past 18 years Mr. Tollefsen has been associated with the U. S. Gauge Co., Sellersville, Pa., and in recent years as chief engineer.

Full scale resumption of peacetime products has been resumed at Rochester with many new refinements in design. As soon as possible, the range of instruments manufactured will be increased to more completely meet the needs of the industries served and to more fully utilize technical and other production improvements resulting from war experience.

Designed for

LP GAS

NEW ALL ALUMINUM

PORT-O-STOVE

Uses Butane, Propane or any mixture of the two with equal satisfaction. Ideal where small installation is required. Write for full particulars.

FUEL SUPPLY ATTACHED HERE

Weight

Only 5⅜ lbs.

Guaranteed against mechanical and material defects

Manufactured by

ART METAL APPLIANCE CO.

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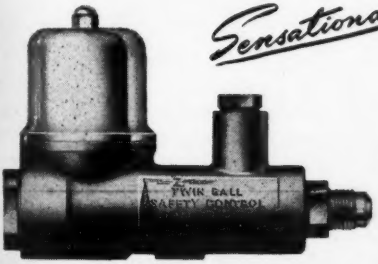
NO MORE FUSE!

Sensational **TWIN-BALL SAFETY CONTROL**



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Save on fuel. Fuel is off when ignition is off.

Available 6v or 12v. Draws only 1.6 amperes.

Fuel supply tank selected from cab while in motion.

Easily installed. Connects in fuel feed line.

- IDEAL FOR SOUNDING AIR HORNS.
- LEVER ARM GIVES 8 TIMES THE POWER.
- EASILY CONVERTED. NORMALLY OPEN OR NORMALLY CLOSED.

BEAM PRODUCTS
1206 EAST SIXTH ST.
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DEALERS WRITE FOR FULL PARTICULARS

VIKING

FEATURES THAT MAKE FOR GOOD PUMPING

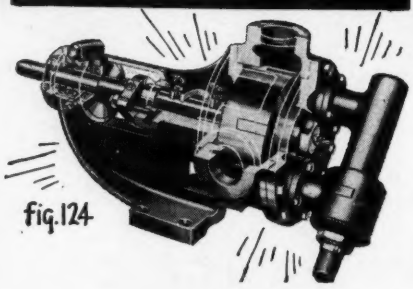

fig.124

1. ONLY TWO MOVING PARTS. Both large and rugged and each self-supported. No small, intricate parts requiring frequent replacement.

2. SELF PRIMING on suction lifts up to 20 feet or vaporization limits on volatile liquids. Smooth, even discharge. No pulsation.

3. SLOW SPEED—LONG LIFE. Reduced speeds of Viking pumps prolongs life and still retains large volume.

4. OPERATES IN BOTH DIRECTIONS. Viking pumps operate equally well in both directions. Simplifies ordering and installation.

5. SINGLE STUFFING BOX. Long, leak-resistant stuffing box. Easily serviced.

Get the complete story on VIKING PUMPS for the butane-propane industry today. Send for free copy of Bulletin Series 2300B.

See Our Catalog In SWEETS

VIKING Pump Company

CEDAR FALLS, IOWA

E. Roy Taylor Establishes New Company in Georgia

E. Roy Taylor long identified with the liquefied petroleum gas industry in Georgia and formerly an officer of the Southern Butane Dealers Association, is re-entering the B-P Gas industry with the establishment of a new company entitled, "Gas, Incorporated." His home office will be in Atlanta. He will have distribution points in Fairburn, Lithonia, Conyers and Covington.

E. ROY TAYLOR

During the war Mr. Taylor was associated with the Sinclair Refining Co. At one time he contributed a series of humorous, but instructive stories to Butane-Propane News. These were based upon the experiences of a rookie service man endeavoring to learn the B-P Gas business whose name was "Joe Pipp."

Dr. Gustav Egloff Flies To England to Lecture

At the invitation of the Institute of Petroleum of Great Britain, Dr. Gustav Egloff, of Universal Oil Products Co., Chicago, delivered a series of lectures before various local chapters of the Institute in England, Scotland, and Wales in August. He also lectured at Oxford and Cambridge universities, and addressed the Catalyst Club of England, in London.

His subjects were "Catalysis in the Oil Industry," "Petroleum as a Chemical Industry," and " Modern Products from Crude Oil."

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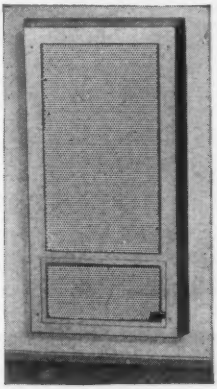

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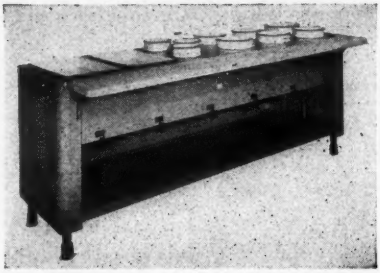

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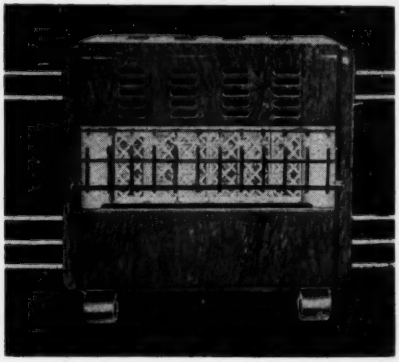

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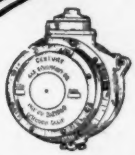

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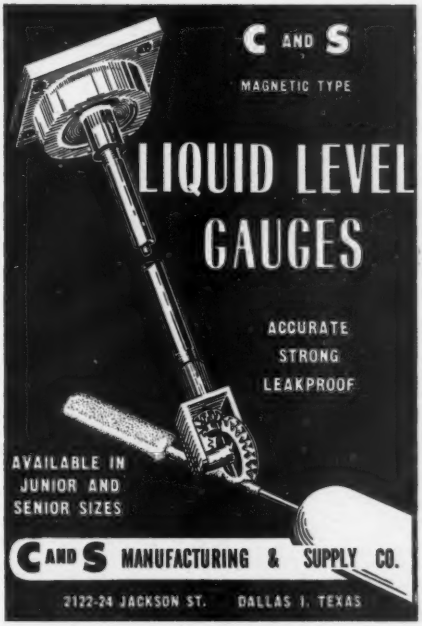

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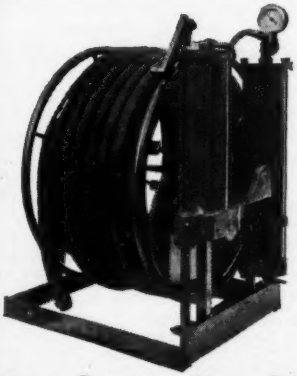

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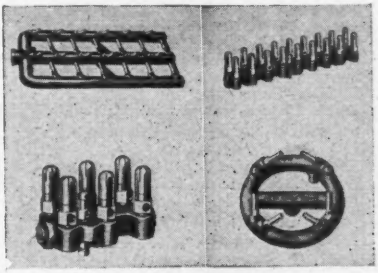

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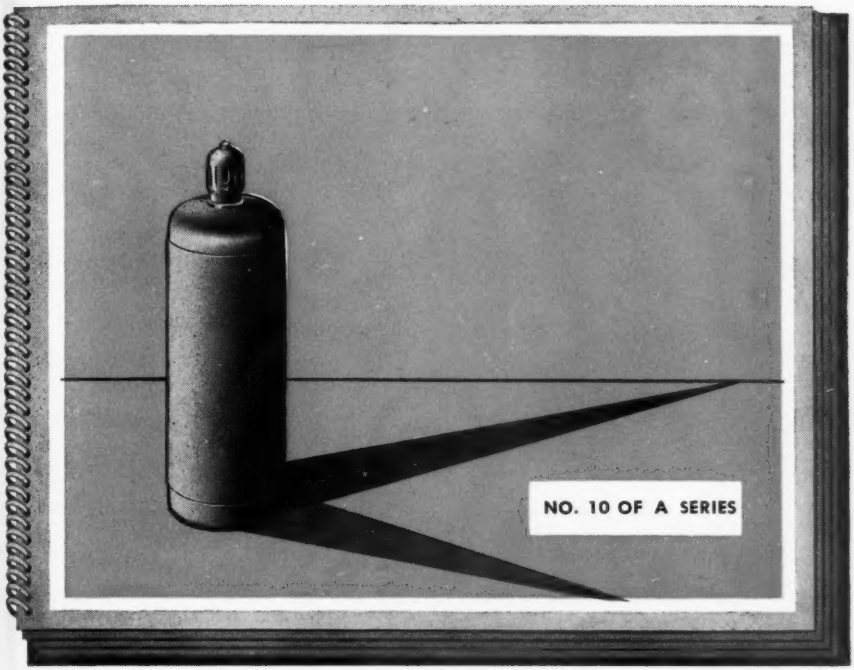

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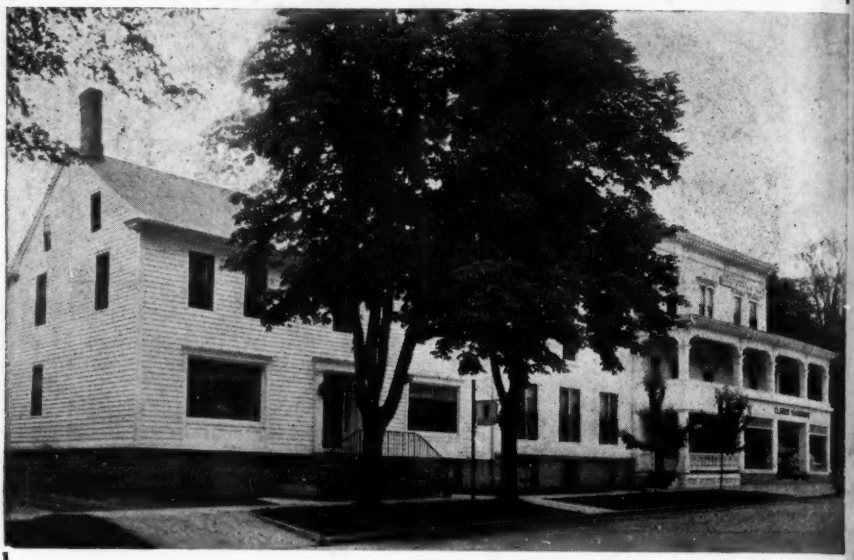

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